Demographic Standards for Surveys and Polls in Germany and Poland: National and European Dimension

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National and European Dimension

edited by
Jürgen H.P. Hoffmeyer-Zlotnik, Uwe Warner

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List of Abbreviations

ADM	*Arbeitskreis Deutscher Markt- und Sozialforschungsinstitute e.V.* (the representative body of the German market research institutes)
ADP	*Arhiv družboslovnih podatkov* (Social Science Data Archives of Slovenia)
AIO	*Anketa o izobraževanju odrasilih* (Slovene Adult Education Survey)
ASI	*Arbeitsgemeinschaft Sozialwissenschaftlicher Institute e.V.* (the representative body of the German academic researchers)
CAI	computer aided interview
CAPI	computer assisted personal interview
CASMIN	Comparative Analysis of Social Mobility in Industrial Nations
CATI	computer assisted telephone interview
CBOS	Polish Public Opinion Research Center
CEO	chief executive officer
CJMMK	*Center za raziskovanje javnega mnenja in množičnih komunikacij* (The Public Opinion and Mass Communication Research Centre)
(C)SDA	Czech Social Science Data Archive
ČSÚ	Czech Statistical Office
CZ	Czech Republic
DE	Germany
DK	Denmark
DSS	Directors of Social Statistics
DESTATIS	Federal Statistical Office (Statistisches Bundesamt) Germany
EC	European Commission
ECHP	Eurostat›s European Community Household Panel
EGP	Erikson-Goldthorpe-Portocarero class schema
EOS	University entrance diploma in German Democratic Republic
ES-ISCED	ISCED-classification for use in the ESS starting with round 5
ESOMAR	European Society for Opinion and Market Research
ESS	European Social Survey
ESS	European Statistical System
EU	European Union
Eurostat	the statistical office of the European Union, Luxembourg
Eurydice	European Commission Network for Information on Education Systems and Policies in Europe

Eurypedia	European Encyclopedia on National Education Systems
(EU)-SILC	European Union Statistics on Income and Living Conditions
EVS	European Values Study
FR	France
GESIS	Leibniz Institute for the Social Sciences
GSS	NORC›s General Social Survey
HBS	European Household Budget Survey
HH	household
HZ/W Matrix	Hoffmeyer-Zlotnik/Warner Matrix of Education
ICLS	International Conference of Labour Statisticians
ICT	Information and Communication Technology Survey (EU)
ILO	International Labour Organization
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
ISEI	International Socio-Economic Index of Occupational Status
ISSP	International Social Survey Programme
JKZ	*jednotná klasifikace zaměstnání* (Czech Unified Classification of Occupations)
KKOV	*Klasifikace kmenových oborů vzdělání* (Czech Classification of Root Fields of Education)
KLASIUS	Classification System of Education and Training
KZAM	*klasifikace zaměstnání* (Classification of Occupations)
LFS	European Union Labour Force Survey
LU	Luxembourg
NORPOL	Polish-Norwegian survey of social, political and economic attitudes
NSI	national statistical institute
OECD	Organization for Economic Co-operation and Development
OLS	ordinary least squares, classical linear regression model
ONS	Office for National Statistics
PISA	Programme for International Student Assessment
PLN	Polish Złoty (Polish currency)
PLSocEd	Polish Social Classification of Education
SCO	Polish Social Classification of Occupations
SCP	Social and Cultural Planning Office of the Netherlands
SIOPS	Standard International Occupational Prestige Scale
SJM	*Slovensko javno mnenje* (Slovene Public Opinion Survey)

SNA	System of National Accounts
SORS	Statistical Office of the Republic of Slovenia
SSEE	Social Stratification in Eastern Europe After 1989
SURS	Statistični urad Republike Slovenije
TUS	Time Use Survey (EU)
UK	United Kingdom
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-UIS	UNESCO Institute for Statistics
VET	Vocational Education and Training
WZB	Social Science Research Centre Berlin

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Preface

The groundwork for this volume was laid at a demographic standards workshop in Berlin in August 2011, which was organised by GESIS in cooperation with the Social Science Research Centre Berlin (WZB). The idea was to first take a look at the way socio-demographic variables are standardised in countries in which standardisation is taken seriously. Of particular interest in this regard were those countries in which data collection has been subjected to major discontinuities or disruptions in the last two decades. This was the case in the former Warsaw Pact countries – as a result of system change – and in the new countries created after the dissolution of the former Yugoslavia and Czechoslovakia. All these countries experienced disruptions and discontinuities not only in official statistics but also in the surveys conducted by market and social researchers. We chose Poland, the Czech Republic, and Slovenia because it was evident that they place importance on the standardisation of socio-demographic variables. In all three countries a new departure in official statistics took place in the early 1990s. Further changes were necessary in 2004 when these countries simultaneously acceded to the EU, because the new EU member states were obliged to submit data to Eurostat from May of that year onwards. As a result, the comparability of survey data assumed greater importance.

At the said demographic standards workshop in Berlin, the Federal Republic of Germany served as a reference country for the national standardisation of socio-demographic variables. Work on the national standardisation of these variables began in Germany in the mid-1980s, when the Federal Statistical Office (Statistisches Bundesamt – DESTATIS) and the representative bodies of the German academic and market researchers established a working group to develop proposals for national demographic standards. After a test phase in the late 1980s (Ehling, Hoffmeyer-Zlotnik & Lieser, 1988), and a test version (Hoffmeyer-Zlotnik & Ehling, 1991), the first edition of the *Demographische Standards* was published in 1993 (Demographische Standards, 1993). The instrument has since been revised at approximately five-year intervals (1995, 1999, 2004, 2010) in order to take account of the latest social and/or legal developments; it is now in its fifth edition.

The first three chapters of the present volume are devoted respectively to descriptions of the *Demographische Standards* for Germany as of 2010 (see: Statistisches Bundesamt, 2010); to a prospect for demographic standards for surveys and polls in Slovenia; and to the standardisation of socio-demographic variables in surveys in the Czech Republic. All three national working groups on demographic standardisation attach importance both to the intra-national *and* the cross-national comparability of survey data. From the 1999 edition onwards, the *Demographische Standards* for Germany have featured a section on "Demographic Variables in International Comparison". As in the case of Germany, the standardisation of socio-demographic variables in Slovenia would not be possible without cooperation between academic social researchers and the national statistical institution – the Statistical Office of the Republic of Slovenia (SORS) – which is responsible for producing the datasets for submission to Eurostat. The same goes for the Czech Republic, where the standardisation of socio-demographic variables in surveys was carried out

by the Czech Statistical Office in cooperation with the Academy of Sciences – i.e., with representatives of academic social research. Special attention has been paid in Slovenia and the Czech Republic to ensuring that both national standardisation and international harmonisation are possible.

The three chapters on national standardisation are followed by a chapter on the European standardisation process initiated in 2005 when the Directors of Social Statistics (DDS) created a task force for the harmonisation of core social variables. The "Core Social Variables" instrument proposed by the task force and adopted by Eurostat (European Communities, 2007) is due to be implemented in EU social surveys by the end of 2013 (see Jechova in the Chapter 4, p. [2]). Because the instrument is also suitable for use in academic social research, it was incorporated into the current (2010) edition of the *Demographische Standards* for Germany. Therefore, academic researchers elsewhere could also consider taking the "Core Social Variables" into account when developing their national standards.

In addition to describing Eurostat's "Core Social Variables" (Scheerbaum), this volume also addresses the handling of individual socio-demographic variables from the perspective of the academic researcher who wishes, or is obliged, to harmonise them for the purpose of European comparison. Therefore, the second part of the book, which deals with cross-national comparison, is preceded by some general reflections on the harmonisation of socio-demographic variables (Hoffmeyer-Zlotnik).

The seven chapters that follow deal with the measurement of individual variables, beginning with education. In the first chapter, Z. Sawinski discusses the national use and implementation of the International Standard Classification of Education (ISCED) in Poland. The fact that many countries – including Poland – have experienced problems with the application of ISCED-1997 prompted Hoffmeyer-Zlotnik and Warner to develop a "Matrix of Education" – a tool for the cross-nationally comparable measurement of education. The authors present their instrument in the second education-related chapter.

The next three chapters are devoted respectively to labour force status, occupation, and to a class schema derived from the occupation variable. The first chapter (Körner) presents the International Labour Organization's (ILO) labour force concept, which divides the population into three groups ("employed", "unemployed", and "not economically active"), and addresses the problem of measurement. In the second chapter (Valentova & Mikucka), the authors focus on the divergent allocation of persons to the parental leave category when implementing the ILO concept in the various European countries. The third chapter (Domanski & Sawinski) critically discusses the class schema developed by Erikson, Goldthorpe and Portocarero (1979) and its applicability to the situation in Poland, highlighting the fact that, even in the case of instruments developed for cross-national comparison purposes, adaptation to national conditions is required.

In the last two chapters (Warner), the author first addresses the semantic confusion surrounding "private household" and the fact that each European country defines the term differently. What is more, the definitions employed by the respective national statistical institutions are not shared by researchers and respondents. Rather, a considerable number of definitions, comprising a multitude of different elements, are in use. There-

fore, a clear and universally comprehensible definition is called for. In the final chapter, Warner demonstrates how the European Social Survey (ESS) measures income for cross-national comparative purposes and highlights the measurement problems that can arise.

This volume on the national standardisation and cross-nationally comparable harmonisation of socio-demographic variables presents a number of possible approaches to national standardisation and addresses harmonisation issues in relation to selected core social variables. Our aim in launching the work is to raise awareness about, and to stimulate interest in, the standardisation and harmonisation of socio-demographic variables. If we succeed in doing so, then our efforts will have been worthwhile.

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Part 1: National Standardisation

Jürgen H.P. Hoffmeyer-Zlotnik

1 Demographic Standards for Germany

1.1 Preliminary Remarks

A fundamental prerequisite for the comparability of statistics is that the data in question be collected under identical conditions. 'Identical conditions' means not only that the sampling design, the survey mode, and the composition and training of the team of interviewers must be identical across surveys, but also the wording of the survey questions. However, especially when it comes to socio-demographic variables, many researchers think that they can avail of the freedom to formulate items as they wish, provided they measure the variable – for example, education – in the categories of the national system. They overlook the fact that comparison of socio-demographic data across surveys is possible only if the variables have been collected using identical stimuli.

The surveys with which academic and market researchers compare their data are frequently conducted by national statistical institutes (NSIs). In Germany, for example, the reference statistics for academic social research and commercial market research are usually the official statistics collected within the framework of the German Microcensus, an annual one per cent sample survey of the residential population. Ideally, therefore, social science and market research surveys in Germany should collect socio-demographic variables in the manner recommended by the Federal Statistical Office (Statistisches Bundesamt).

However, the focus of interest of NSIs does not always coincide with that of academic social researchers or commercial market researchers. If one takes a look at the divergent informational needs of these three groups, one soon understands why this is the case. In the German Microcensus, for example, income is measured using a large number of categories in order to capture income distribution with a view to determining poverty thresholds. For academic social researchers, by contrast, income is often merely a variable with which socio-economic status can be determined. Commercial market researchers, on the other hand, are interested in income as an indicator of households' purchasing power. The focus of interest of these three groups diverges even more starkly when it comes to measuring 'employment'. NSIs measure employment in such a way that gross national income can be extrapolated from the data. For academic social researchers, by contrast, employment is, first, a stage in the life cycle and, second, a proxy variable with which the economic activity status and the occupation of the target person can be determined. Knowledge of the target person's occupation, and of whether he works full or part time,[1] enables the researcher to draw conclusions about the individual's prestige, social status, and economic situation.

Because of the divergent interests of NSIs, academic social researchers and commercial market researchers, survey questions used for official statistics purposes are

1 In the interests of readability, masculine pronouns will be used in this text.

usually only partially suitable for use by the other two groups. To remedy this situation, the Federal Statistical Office and the representative bodies of the German academic and market researchers established a working group in the mid-1980s. Its task was to develop common definitions of demographic background variables, and to formulate questions and response categories for their measurement, in order to improve comparability across surveys in Germany. The fruit of the labours of that working group was a set of proposals for demographic standards for Germany. After a test phase in the late 1980s (Ehling, Hoffmeyer-Zlotnik & Lieser, 1988), and a test version (Hoffmeyer-Zlotnik & Ehling, 1991: 29 ff.), the first edition of the *Demographische Standards* was published in 1993 (Statistisches Bundesamt, 1993). Further updates followed (Statistisches Bundesamt, 1995; 1999; 2004), and a fifth, completely revised edition was published in 2010 (Statistisches Bundesamt, 2010).

1.2 Prerequisites for Use

The intention of the *Demographische Standards* for Germany is to provide common national standards for the measurement of socio-demographic background variables in order to ensure that the data collected by market researchers and academic social researchers are largely comparable to the official statistics of the Microcensus. Because the Microcensus variables – and their formulation – are subject to political decision and enactment into law, complete comparability with the Microcensus is not always possible to achieve. Nonetheless, academic and market researchers are urged to adopt the *Demographische Standards* without altering the wording of the questions or the response categories. However, depending on the research question and researchers‘ needs, the *Standards* may be too detailed or not detailed enough. If they are too detailed, researchers are free to exclude entire variables, omit some of the items, or collapse categories. If the *Standard*s are not detailed enough, researchers can include additional items, or differentiate the response categories further. When adapting the questionnaire in this way, it is important to make sure that response categories are recodable – in other words, that it is permissible to subsume existing response categories under a superordinate category or to break them down into subordinate categories. However, it must be borne in mind that the variables that are to be compared across surveys must be measured in accordance with the *Standards*.

The *Demographische Standards* questionnaire is provided in two formats – one for face-to-face interviews, the other for telephone interviews. Variants for postal or online surveys are not available. However, researchers can develop them themselves, provided they observe the construction principles of the *Demographische Standards*.

As a rule, one household member is randomly selected as the reference person. Most of the socio-demographic questions relate to that reference person; only a few questions regarding household size and income relate to the household. The aim is to use the socio-demographic characteristics to obtain independent variables that reflect the social and demographic structure of the field, on the one hand, and the characteristics of the respondent, on the other.

1.3 Variables Covered

The *Demographische Standards* (Statistisches Bundesamt, 2010: 8 ff.) cover all characteristics that social scientists consider to be core social variables. However, because the *Standards* represent a compromise between the three participating groups and their divergent interests, some of the variables are not measured in great depth.

(1) 'Sex': Biological sex (as opposed to socially constructed gender) is measured in two categories, male and female. Intersexuality and transsexuality are not addressed.

(2) 'Age': To determine the cohort to which the respondent belongs, the month and year of birth are recorded. For data protection reasons, the exact date of birth – which is useful information in the case of surveys with an age cut-off – is not collected. The measurement of age by means of month and year of birth means that the researcher must recode these data into 'age in completed years on the date of reference' at the analysis stage. However, this is deemed preferable to asking the respondent to state his age because this can lead to confusion as to whether age in completed years (age at last birthday) or age at next birthday is meant.

(3) 'Nationality': Because non-nationals account for quite a large percentage of the residential population in Germany, and because survey populations usually include all persons within a certain age group who are resident in a private household and have a command of the German language, this variable must distinguish at least between 'German' and 'non-German'. However, as citizens of EU member states have a privileged residential status and enjoy particularly protected access to the national labour market, non-Germans are also asked whether they are citizens of an EU member state. Depending on the research question, it may be useful to include additional questions or categories (Hoffmeyer-Zlotnik & Warner, 2010).

(4) 'Legal marital status and consensual union': First, the respondent's legal marital status is recorded using the national legal marital status categories. In the 2010 edition of the *Demographische Standards*, the list of categories was extended to include registered (same-sex) partnerships. In a second question, those who are not living with a de jure spouse or registered partner are asked whether they are living in a consensual union with another member of the household.

(5) 'Highest general education qualification': In the German *Demographische Standards*, general education and vocational education are collected separately. This is due, first, to the fact that, in German society, they are regarded as two separate educational trajectories. And, second, the large number of possible combinations of certificates from both trajectories would give rise to a very large number of categories. Respondents are asked to state the highest general education qualification obtained. This is measured in the categories of the national educational system. However, in Germany each federal state (*Land*) is responsible for its own education system. Hence there are currently 16 more or less different education systems – even the terminology they use may differ. Because data are collected using superordinate 'national' categories, respondents are sometimes obliged to 'translate' their *Land*-specific certificates into the national equivalent.

However, not only must the 'direct route' through the education system be covered, but also the 'indirect route', i.e. combinations of general and vocational education quali-

fications that are recognised as being equivalent to a general higher education entrance qualification. Therefore, in order to increase compatibility with the International Standard Classification of Education (ISCED 1997; ISCED 2011; see UNESCO, 2003; UNESCO-UIS, 2011), an additional category was introduced for respondents who obtained their *Abitur* (general higher education entrance qualification) later in life (second-chance education). However, the instrument does not adequately cover ISCED Level 4 (post-secondary, non-tertiary).

Since the reunification of the two German states in 1990, survey questions about educational qualifications must feature categories from the two national education systems because they belonged to different types of education system and are therefore not directly comparable.

(6) 'Intended general education qualification': If a respondent is still attending a general education school, he is asked which qualification he is aiming for.

(7) 'Vocational qualifications': In Germany, vocational education includes apprenticeships in the 'dual system' – a combination of part-time vocational school and part-time on-the-job training – and vocational education at full-time vocational schools, colleges or higher education institutions (universities, universities of applied sciences, etc.). In order to be able to capture combinations of general education and vocational qualifications, a multiple response question is used. This is necessary because, in Germany, some vocational education qualifications are recognised as being equivalent to a general education qualification.

The data from the 'highest general education qualification' item and the 'vocational qualifications' item are needed in order to be able to code educational qualifications according to ISCED. However, the two types of qualification are not united and allocated to ISCED levels until the data processing stage.

(8, variant 1) 'Labour status': The aim of this variant of the labour status question is to capture a number of situations. First, employed persons are identified and asked about the extent of their employment. Three broad categories are used: ‚full time' in the sense of the number of hours deemed to constitute full-time employment in the sector in question or as defined in collective bargaining agreements; ‚part time', i.e. less than full time but not less than 50% of full-time employment; and ‚marginally employed', i.e. below the threshold for part-time employment. In addition there are a number of country-specific categories that accommodate state employment schemes and labour market regulation programmes. These are followed by a category that accommodates all those who are not in employment. Here, the differentiation is not so much between 'unemployed' and 'population not economically active' in the narrower sense (ILO, 1982), but rather by stages in the life-cycle: the education stage, the work stage, and the retirement stage. For the employment stage there are categories for employed, unemployed, and economically inactive persons.

This variant of item (8) in the *Demographische Standards* questionnaire is not comparable with that used in the Microcensus because, in the interests of European comparability, and to facilitate the extrapolation of gross national income, the Microcensus follows the International Labour Organisation (ILO) rules (ILO, 1982; Rengers, 2004: 1369

ff.; Massarelli, 2008; Hoffmeyer-Zlotnik & Warner, 2011). However, an ILO-compatible variant of item (8) is also provided.

(8, variant 2) 'Labour status according to the International Labour Organisation (ILO) concept': The labour force data that the Federal Statistical Office submits to Eurostat must be collected in accordance with the ILO concept. The ILO concept divides persons of working age (15 to 74 years) into three superordinate categories: 'employed', 'unemployed', and 'population not economically active'. Because the ILO defines 'employed persons' as persons who do any work for pay, profit, or family gain for at least one hour during the reference week, this definition is unsuitable for determining a person's prestige and social status. A few cross-national comparative research projects try to integrate the ILO concept in a rudimentary way into their labour status variable module (Hoffmeyer-Zlotnik & Warner, 2011: 211 ff.; Hoffmeyer-Zlotnik & Warner, 2012a: 341 f.). However, a large number of items are needed to properly collect the ILO labour force variable. Hussmanns, Mehran and Verma (1990: 258 ff.), who are ILO experts for the identification of the economically active population, envisage labour status variable modules that comprise between 31 and 61 items.

(8 A-C) 'Description of current job(s): These three items are devoted to collecting more specific information from those who are in employment: (A) the number of paid jobs (B) whether they are (also) self-employed or freelance, and (C) how many hours they usually work each week.

(9) 'Activity status': This item serves to determine the main activity status and the group characteristics (pupil, student, unemployed person, retired person, etc.) of all those respondents who are neither in full-time nor in part-time employment, and whose social status cannot, therefore, be defined on the basis of occupation. Because item (8) measures self-declared labour status, item (9) serves also to check the accuracy of this self-assignment.

(10) 'Previous employment': Because occupation is one of the best indicators of prestige (Treiman, 1977; 1979: 124 ff.; Ganzeboom & Treiman, 2003: 159 ff.) and socio-economic status (Ganzeboom, de Graaf, Treiman & de Leeuw, 1992: 1 ff.; Ganzeboom & Treiman, 2003: 159 ff.), this item serves to determine whether target persons who are no longer in full- or part-time employment have worked on a full- or part-time basis in the past.

(11) 'Occupation': 'Occupation' must be collected in such a way that it can be coded into the categories of the International Standard Classification of Occupations (ISCO) (ILO, 1990; 2009b). For the last 30 years, occupation has been successfully collected in Germany using three sub-questions (Geis & Hoffmeyer-Zlotnik, 2000:104 ff.; Hoffmeyer-Zlotnik, Hess & Geis, 2004: 40 ff.). This three-stage approach facilitates the collection of occupation in such a way that – with a few exceptions – the data can be coded to ISCO-88 (ILO, 1990) or the revised edition, ISCO-08 (ILO, 2009b).

(12) 'Professional status': This variable can be regarded as a supplement, or an alternative, to 'occupation' because it facilitates the assessment of occupational prestige on the basis of enterprise size (in the case of self-employed persons) or autonomy (in the case of employed persons) using a five-point scale (Hoffmeyer-Zlotnik, 2003b). This

saves researchers from having to carry out time-consuming ISCO coding. 'Professional status' differentiates, first, between self-employed persons and employed persons. The self-employed are then divided into three groups: farmers, academic liberal professionals, and self-employed persons in commerce, the hotel and restaurant sector, trade, industry, and services. In a second step, the self-employed are classified according to enterprise size. Employed persons are also divided into three groups: public servants, salaried employees (white collar employees), and workers (blue collar employees). In a second step, they are differentiated according to the degree of autonomy that they enjoy in their jobs. Two residual groups remain: those persons who are still in education or training, and contributing family workers. In the face-to-face version of the questionnaire, item 12 can be administered as a one-stage item by presenting the respondent with a long list of categories, or as a two-stage item in which the superordinate category is determined first, and the respondent is then shown a card with three to five subordinate categories.

(13–15) 'Equipment of private households with communication technology; communication technology usage behaviour': In this three-question block, the equipment of private households with communication technology is collected, beginning with the number and type of landlines and mobile phones and ending with computers and Internet connections. In each case, respondents are also asked about their usage behaviour (Statistisches Bundesamt, 2010: 16 ff.). These questions are asked both in the face-to-face interviews and the telephone interviews. They serve to come to grips in a standardised way with the stratification and weighting of telephone samples.

(16) 'Number of persons in the household': On the one hand, the target person is asked questions about himself because independent variables in the form of individual characteristics are needed for the analysis of attitudes and behaviour. On the other hand, the target person is a member of a household, and rudimentary household information is needed in order to classify him and to assess his social status. Moreover, the information is needed to weight the sample.

All persons who live permanently in the respondent's household should be counted. For this purpose, it is necessary to define what is meant by 'household'. As a small study conducted by Hoffmeyer-Zlotnik and Warner (2008) revealed, everyone has a very clear idea of what a household is. However, there is no uniform definition, but rather a dizzying array of definitions. For this reason, researchers must provide a definition that all respondents can understand. In Germany, 'household' is defined on the basis of two indicators: co-residence and common housekeeping arrangements.

When formulating the question about the number of household members, both the respondent and all the children who live in the household must be included. In practice, babies are often forgotten.

(17) 'Number of persons in the household who belong to the population universe': Most surveys begin with the recruitment of target persons at the household level. As a rule, a nameplate, a front door, or a landline telephone connection leads to a household, part of a household – when the household is spread over several dwellings – or even several households. If the household has more than one member, the target person is randomly selected from all the members who belong to the population universe. In order

to weight and control the person sample that is drawn from the household sample, the second household-related question measures the number of members of the household who belong to the survey population. The exact wording of the question is left up to the researcher, who must define the population from which the sample is drawn.

(18) 'Number of persons in the household who contribute to the household income': The income questions (see 19 A, B and 20 A, B) relate both to the respondent's income and the household income. In order to be able to estimate the relationship between the respondent's income and the household income, the last of the three questions about household size measures the number of household members who contribute to the household income.

(19 A, B and 20 A, B) 'Income – household and target person': Questions 19 A and B are devoted to the household income, which is defined as the sum of the income of all the household members. Questions 20 A and B measure the personal income of respondents who live in a household comprising more than one person.

In Germany, questions about income are among the most sensitive of survey questions. They make both the respondents and the interviewers nervous, as evidenced by the fact that no other items have a higher non-response rate. Therefore, a number of measures are taken to reduce the number of refusals. The first is a confidence-building measure. It begins by explaining why the information is needed and assuring the respondent that the data will be anonymised before analysis. If the respondent still refuses to answer the open question about income – and this happens in about 20% of cases – he is shown a list of categories of 'average monthly net income' and asked to choose the one that applies to his household. Each category has a single-letter code (B, P, T, F, E, H, L, etc.); the letters are in no particular order. This two-stage procedure was developed in the 1980s for face-to-face interviews, and it visibly reduces the non-response rate. The fact that the code letters are not in any order gives both sides – the respondents and the interviewers – the impression that the interviewer cannot deduce the level of income from the response. In the telephone interviews, it is not possible to work with unsorted code letters. But here, too, a two-stage approach is used – in the justified hope that offering a list of categories after an open question will reduce the risk of non-response. Forgoing the open question and using only the categories leads to more refusals than the two-stage strategy.

The income questions aim to capture orders of magnitude. Only one person per household is interviewed, and the more distant this person is from the main earner, the less he knows about the household income, and the more distorted are the responses (Warner, 2009: 116 ff.).

Academic social researchers need income data as an indicator for the assessment of socio-economic status. For market researchers, these data serve as an indicator of purchasing power. Therefore, one open question followed by a repetition of the question accompanied by a list of categories suffices, in principle, for both these groups. The question itself is formulated in the form of an arithmetical exercise. The target person is requested to think of as many types of income as possible accruing to the household, including public and private transfers. The most important income types are mentioned

explicitly. Then the interviewer explains what must be deducted (tax and social insurance contributions) in order to yield net income. A separate interviewer instruction explains how the net income of self-employed persons is calculated. The interviewer is not permitted to estimate income on the basis of his first impression of the respondent and/or his dwelling.

1.4 Handling the Demographische Standards

From the academic social researcher's point of view, the variables covered by the *Demographische Standards* are an absolute minimum. By contrast, many market research surveys manage with considerably fewer socio-demographic variables, while NSIs usually need many more. The variables covered by the *Demographische Standards* represent a compromise between the interests of academic and market researchers and the Federal Statistical Office that was reached in order to establish a minimum of comparability across surveys in Germany. However, depending on the research question on which the survey is based, both the questions and the response categories may be expanded or reduced. The question wording and the response categories for the current variables were formulated in such a way as to ensure comparability with the Microcensus. Therefore, in cases where the items and/or categories are not reduced, the texts prescribed by the *Standards* should be used.

Because the working group endeavoured to keep Eurostat's 'Core Social Variables' (European Communities, 2007) in mind when developing the *Demographische Standards*, most of the variables are useful for cross-national comparison purposes.

The Federal Statistical Office makes data derived from the annual evaluation of the Microcensus available as an appendix to the online edition of the *Demographische Standards*. These data are an interesting supplement to the *Standards*. They relate to the variables of the *Demographische Standards* and can be regarded as reference statistics. In some cases, the response categories of the Microcensus may deviate from those of the *Standards*. The appendix even includes data for the central categories of the 'labour status' variable, although the Microcensus collects this variable in a very different way. However, not all the labour status categories used in the *Standards* can be covered. One should bear in mind that NSIs do not collect data from the point of view of social or market research. Nor should one forget that, in official statistics, the topics to be surveyed and the response categories are legally regulated by policy makers.

Janez Štebe

2 A Prospect for Demographic Standards for Surveys and Polls in Slovenia

2.1 About

The paper presents the results of feasibility study of forming the national demographic standards to be used for surveys. Such standards already exist for two decades in Germany (Statistisches Bundesamt, 2010). The German approach is interesting because it includes collaboration of academic community representatives, delegates from the commercial market research, and the experts from official statistics. Recommendations given in 'Demographische Standards' publications influences and attracts also commercial surveys community. That characteristics is what we also have in mind when dealing with the prospect of national demographic standardisation: the goal to harmonise set of variables regardless of origin (official, academic or commercial), so that the analytical added value of micro-data is increased. Similar to the German is the program of British Office for National Statistics (2001) 'Harmonised Concepts and Questions for Social Data Sources'[1] except that it's more narrowly focused on surveys from official statistics and other administrative data sources. Related to the ONS documents is a continuous program of Survey Question Bank, started already in nineties under the guidance from Professor Martin Bulmer, which is now hosted at UK Data Archive, and includes wider range of survey and other resources. Among other things that project also commissions the experts overviews of specific topics and concepts or variables, and thus could be used as a reference for other similar projects[2].

The goal of increased comparability of data sources, with the emphasis on published aggregate figures, is often referred to as an argument for the establishment of national demographic standards. The comparability requirement is also one of the dimensions of statistical quality indicators[3]. The assessment of how representative are different surveys to the target population, is usually made by comparison of achieved sample's demographic structure to high quality data set, such as official Micro census (Statistisches Bundesamt, 2010). Further on, international comparability of depends on the specific

1 Office for National Statistics http://www.stat.si/eng/drz_stat_surs.asp. Web, 4 September 2012 <http://www.ons.gov.uk/ons/guide-method/harmonisation/harmonisation-programme/index.html>

2 „Welcome to topics". Survey Question Bank. Web, 4.Sept. 2012 <http://surveynet.ac.uk/sqb/topics/introduction.asp>

3 „Comparability. Used concepts should be harmonised, so that the obtained data and information are comparable over time, between geographical areas and between domains." Is the statement of guidance of Statistical office of Republic of Slovenia (Web, 4.Sept. 2012 < http://www.stat.si/eng/drz_stat_kakovost.asp>) following Eurostat recommendations (Eurostat, 2011a)

national operationalisation of concepts used. "To allow for socio-economic analysis based on the main structural variables" (Eurostat, 2007: p. 5) is also one of the main motivations for the Task Force on Core Social Variables, when introducing recommendations for inclusion of set of common variables into main continuous European statistical survey programs.

The author of a paper comes from *Arhiv družboslovnih podatkov* – ADP (Social Science Data Archives of Slovenia). With the background and experiences in Social Surveys methodology, while collaborating in the *Center za raziskovanje javnega mnenja in množičnih komunikacij* – CJMMK (The Public Opinion and Mass Communication Research Centre), and later engagement at the data archives gives him an incentive to attain a broader perspective. Namely, our interest is to increase the potential of many possible secondary uses of micro data within an academic research community. Thus this will be one of the emphases in current paper. Linkage of micro data across time, space and method/mode used, and advanced documentation of concepts used and their operationalisation, down to the computer code and procedures used in analysis for replication purposes. All this could be listed as enhanced features that exploit additional analysis potential of a single data set, enabled by more formal harmonisation of demographic variables. (see Lambert et al., 2011; Goble, 2012).

In pursuing the study presented, we approached different groups of survey data producers in a country, namely Statistical Office of the Republic of Slovenia – SORS as the main official data producer, CJMMK as the main academic surveys producer, and a group of commercial survey institutes that are highly positioned in a country. We start the presentation with the overview of their profile regarding the interests and current activities, which are related to the practice of demographic measurement. Each of the institutes were asked to provide us with the examples of their prevailing 'form' of questions that are used for measuring the four concepts, which were initially defining the scope of the workshop. A request was send for an update about use of demographic standards on four target variables (*Education*, *Labour status, Private household, Income)*. Information was sought on the following:

- Wording of questions,
- Classifications used and
- Reference to internal or external standard.

To increase the number of examples taken into inspection publicly available survey instruments of some of the most prominent national and international comparative research were checked. We compiled some of the key characteristics of each of the form of 'measurement', in order to get the impression of a range of the variability in survey practices. This will be presented in a main section of the paper, and discussed along the institutes profile features that influences their daily methodological decisions, such as: main purpose of research, financial and time concerns, international collaborative character of surveys. Last section will present some final concerns about the prospect of establishing national demographic harmonisation standards.

2.2 Description of institutions and related typical problems

Leading representatives of each group of data producers are presented in the following. For the official government sector SORS was approached. Notwithstanding the fact, that some of the surveys and statistical programs are conducted by the corresponding Ministries and other public institutions, such as *National Institute of Public Hea*lth[4], SORS is still both by far the largest data producer in a country, and the leading experts centre.

2.2.1 Governmental sector (SORS)

SORS has a role in coordinating the statistical program activities on the national level, and in relation to international obligations. It is responsible for most of statistical research program results delivery. Legal basis regulating the activities of statistical surveys is NATIONAL STATISTICS ACT (SURS, 2001). Midterm and yearly Programmes of statistical surveys are planned and executed accordingly[5].

As is widely known, the tradition of Slovene statistics is very much register based[6]. The responsibility for keeping and updating registers has been distributed to different authorities. Still SURS keeps an eye on the quality of records taken. One of the mechanisms, that enable the high quality and usability of administrative registers infrastructure, is the prescribed use of uniform identification numbers of individual units that allows for linkages. The other, which is even of greater relevance for the present topic, is an obligation to use the standard classifications in all official administrative sources, with the explicit aim to allow for data harmonisation and high data quality.

Besides the 'official national standard classifications' based on Decree (e.g. Occupations, Education) which, as a rule, also contain the key tables for mapping into corresponding international classifications, SORS is prescribing some limited number of classifications as 'statistical standards' with methodological guidelines[7]. SURS is active in survey based research for more than 10 years, after the requirement of Eurostat coordinated activities came into force by the EU accession. SORS is now partner in most of international survey research projects of official statistics, coordinated by Eurostat. The challenge of adopting the methodology requirement of international surveys influenced the establishment of special survey research units, which is capable of continuously executing telephone or field surveys on the whole territory. Each of the survey projects has its own coordinator, who is responsible for monitoring translation of instruments, and/or for preparing the internationally harmonised micro data files. Documentation about

4 „Who is who in national statistics?" Statistical Office of the Republic of Slovenia. Web, 4 September 2012 <http://www.stat.si/eng/drz_stat_kdosestavlja.asp>

5 „Programmes of statistical surveys." Statistical Office of the Republic of Slovenia. Web, 4 September 2012 <http://www.stat.si/eng/drz_stat_programi.asp>

6 Register-based statistics." SURS. Web, 4 September 2012 <http://www.stat.si/eng/drz_stat_registrska.asp>

7 „KLASJE Classification Server." SURS. Web, 4 September 2012 <http://www.stat.si/eng/klasje.asp>

surveys is available publicly on SORS web, part of it such as methodological notes and quality reports in English[8] (original questionnaire full text versions are in Slovene only[9]).

Problems related to adoption of demographic standardisation are similar to those in other countries. There are sometimes conflicting requirements to use certain version of variable against another, due to fulfilment of international requirements, or because of keeping the comparability over time. What is specific in case of SORS is a challenge to harmonise the forms of measurement across methods, that is survey based or register based. Registers themselves are prone to some difficulties in responding to statistical data requirements: they tend to be rigid in adopting new variables, or otherwise changing the processes of data generation as established. The updating of status change may lag behind, e.g. change of residence, change in achieved education, etc. The main problem is a dual purpose of the data collection in registers, as it is administrative purpose that normally dominate over the statistical reporting and academic use (Dolenc, 2009).

From the point of current discussion the main characteristics of a 2011 Census is, that it is setting ‚de facto' standard for demographic variables to be used also in future survey research. The Census was for the first time entirely registers based. By its character, as the biggest and most complete information source on the structure of population, it gives criterion values for the sample surveys to be judged upon. Among other things it contains a new definition of a household: »persons with the same household number living at the same address«[10]. The belonging to the household community is self-declared at the point of registration of a permanent address in the Central register of Population[11], based on criterion of sharing common household expenses (MNZ, without year).

For the Census 2011 the data on educational attainment for total population of Slovenia was for the first time collected on the basis of available administrative and statistical sources (mostly official records was used), in contrast to the previous Censuses, where individual statement of completion of individual level of education was recorded. Thus the ‚subjective' bias in education recording is almost entirely removed. The Census information is also now up to date. The last census was sought outdated for some time already, and it was only possible to assess a reliable up to date information by using sample information from continuous surveys with very large sample size, such as Labour Force Survey.

Classification System of Education and Training (KLASIUS)[12] was used to convert on a common base the data of valid classifications of education of different periods, and contained in different sources. The classification used is established as 'Official Statistcal

8 „Methodology." SURS. Web, 4 September 2012 <http://www.stat.si/eng/metodologija.asp>

9 „Metodologije." SURS. Web, 4 September 2012 <http://www.stat.si/metodologija.asp>

10 New method of collecting data on households and families. SURS. Web, 4 September 2012 <http://www.stat.si/popis2011/eng/MP_GD.aspx?lang=eng>

11 „Centralni register prebivalstva (CRP)." MNZ. Web, 4 September 2012 <http://ecrp.gov.si/katalogPodatkovCRP.html>

12 „KLASIUS-SRV - Klasifikacije vrst izobraževalnih aktivnosti/izidov, V1." SURS. Web, 4 September 2012 <http://www.stat.si/klasje/tabela.aspx?cvn=3967>

Standard' that is compulsory for administrative and statistical evidences[13]. There are two versions of the classification system, namely KLASIUS-SRV and KLASIUS-P. KLASIUS-SRV has 3 level classification system based on level, stage of education and type of achievement. KLASIUS-SRV was the version used in the Census 2011. While not entirely compatible with the ISCED 1997, it contains crosswalks to it.

Data on employment was also derived, based on various registers and official sources, with the hierarchy of sources in which the Statistical Register of Employment dominates, following by registers of unemployed persons, pensioners, student enrolment in tertiary education, etc. Information was primarily taken about the activity in the last week before the reference date (1 January 2011), in accordance with the international methodology recommendations.[14]

Thus we can conclude that SORS is indeed an authoritative source of expert guidance for the use of the national official classifications, and keeps extensive references to main international standardisation efforts. They have established an on-going internal experts consultation along with the above mentioned Eurostat Task Force on Core Social Variables Recommendations, with the ambition to translate and adapt to Slovene context the original document from 2007. Examples from current research programs, a reference to classification server 'KLASJE', and an expert nominated for a topic assigned to each particular variable, are planned to be included in the translated and adapted document. These activities have a potential to influence further standardisation and harmonisation practices, where there is a challenge to communicate and understand particular requirements between the head of particular research program, and the expert assigned to the particular variable. The first are usually under the pressure to fulfil the load of reporting requirements defined in advance and to follow the international obligations.

2.2.2 Academic surveys (CJMMK)

CJMMK is the leading institute of empirical social science research in the country[15]. It has a record of more then 40 years of continuing survey research of general population. *Slovensko javno mnenje* - SJM (Slovene Public Opinion Survey) as the leading product is actually a combination of an omnibus academic survey of ad hoc modules, and a continuous block of questions of a General social survey character, including international comparative social survey programs. The CJMMK was active in comparative research in the region from the beginning, and after nineties it adopted most of the prominent comparative surveys of social and political attitudes, such as European Social Survey, World Values Survey, International Social Survey Programme, European Values Study, Cross-national Survey of Electoral Systems. It leads CATI/CAPI surveys on demand from academic, public and private sector environments. Until recently the telephone Politba-

13 „Kaj je KLASIUS?" SURS. Web, 4 September 2012 <http://www.stat.si/klasius/Default.aspx?id=1>

14 „New method of collecting data on activity" SURS. Web, 4 September 2012 <http://www.stat.si/popis2011/eng/MP_Akt.aspx?lang=eng>

15 „CJMMK - Short profile." CJMMK. Web, 4 Sept. 2012 < http://www.cjm.si/cjm_english>

rometer Survey of Slovenia was conducted regularly on an at least quarterly basis for the Government Communication Office.

Regarding the efforts of demographic standardisation, the ad hoc internal standardisation of a block of demographic questions has been evolving from the beginning of SJM series. Partially, it adopted some practices of that time from SORS. The initiatives for a more regular in-house demography arise from collaboration within international comparative surveys. The recommendations and requirements of international demography block spread into institutional practice. The most notable one was the influence of the demographic block requirements of the ISSP[16], with which CJMMK began to collaborate in 1992. ISSP demography was an output harmonisation based, which allowed for some local specific measurement. There were still some of the key variables, such as detailed occupation, that were newly introduced just for the fulfilment of the ISSP requirements.

Some of visible problems are similar to the problems of the government sector: Namely, not all international projects are satisfied with output (ex-post) harmonisation. Recent higher standard for international comparability in ESS requires input harmonisation down to the wording of questions. Thus conflicting requirements of different international projects lead to in-house variations of measuring same variables. There is also a habit, due to usual financial constraints, to execute a shortened version of demographic block for the ad-hoc national surveys.

The results of the ex post harmonisation could be in internal conflict from one wave to another due to different understanding of requirements, and/or inconsistencies in coding and recoding procedures. Thus a demand for a more formal standard demographic variables guidance, which would also include the recommended wording of questions, would be high. Same could be said for variants of telephone interviews. Fulfilment of sometimes conflicting international requirements is a challenge there.

2.2.3 Commercial sector

Some of the leading marketing institutes, established soon after independence, were approached. Gradually most of them became a part of multinational networks (GFK, Gallup...), and has established branches in the Balkan and the Central European region. Besides woking on their commercial program they are also subcontractors in some publicly or academically financed surveys (e.g. Eurobarometer).

Our invitation to them to report on standardisation efforts was well accepted. All of the institutes approached provided feedback. High level of interest was expressed for participation in the initiative for establishment of national standards that, they believe, could follow this initial overview of situation. They share the concern of having an instrument of a set of demographic variables, which is, at the same time, reliable and effective. They tend to use light versions of classifications of some variables for descriptive presentation purposes in reports. All are already using some internally (inside of

16 „Background Variables & Further Coding Standards". GESIS. Web, 4.Sept. 2012 <http://www.gesis.org/issp/issp-members-area/coding-standards/>

an institute) harmonised standard, usually with the reference to some internationally recognised demographic recommendations (i.e. ESOMAR[17]).

2.3 Characteristics of demographic standards in prominent surveys

Sets of measures of four target variables were taken from 14 surveys and institute reports for a case study to gain insight into a common demographic standard prospect. Besides providing the examples of the surveys that were part of the international projects, we included some ad hoc national variants. The three marketing institutes provided us with a set of common questions in relation to the target variables. For the other two groups, in addition to in-person reports, we consulted publicly available full text questionnaires and located relevant questions in there.

As expected, the most complete set of characteristics that measures education is included in the Adult education survey (AIO) (Table1) as this is in line with the general topic of a study. Only two variants include open ended descriptions that could be used for further coding, if required. The commercial surveys tend to use simplified batteries of questions, usually only one, to reduce respondent burden. They've also been seeking for reduced coding schemes, in line with the primary purpose, to provide simplified break-down variables for descriptive analysis. Years of schooling is included in the academic surveys of an international comparative character, as this is one of the variants to put the national education schemes on a common denominator for comparative analytical purposes.

Similarly, as in the case of education and AIO, the most elaborated set of measures for labour status is included in the Labour force survey (Table 2). Even if the primary method is the ILO labour status definition, it also includes close ended self-classification, which is already in line with the Eurostat Taskforce recommendations for cross-surveys harmonisation of key variables. This later form is used in all other surveys except for the ESS.

The total number of household members is the variable which serves as a common denominator for the private household information (Table 3). Although it is not explicitly measured, using some of the SORS surveys' questionnaires, it still derives from more detailed information on characteristics of all household members. This later is obviously a burdensome method, included only in few surveys, and not presented in commercial ones at all. As a part of the sampling protocol, information on household members can sometimes be used in a selection process of a respondent out of all household members. We can assume that the information on at least age and gender composition of the household is available in those cases. An explicit definition of what constitutes a household or an implicit definition which uses some rules that enable a derivation of household membership are characteristics, missing in almost all variants. As mentioned previously, if we took it as 'de facto' standard for the future, in Census 2011 there is an explicit definition of a household, together with the detailed kinship relation to the reference person. There are only a few existing surveys, completely in line with this standard.

17 „Codes & guidelines". ESOMAR. Web, 4.Sept. 2012 <http://www.esomar.org/knowledge-and-standards/codes-and-guidelines.php>

Table 1: Characteristics of the measures of Education among surveys/institutions (1 = True; 0 = False)

Characteristics of measure	ADS[1]	EU-SILC[2]	APG-VP[3]	IKT-GOSP[4]	AIO[5]	EHIS[6]	TU-ČAP/2010-I[7]	ESS_SI_10[8]	ISSP_SI_09[9]	SJM 092[10]	RM_PLUS[11]	GFK[12]	MEDIANA[13]	VALICON[14]
Close ended self-classification of last concluded educational level	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Open-ended description	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Years of schooling	1	0	0	0	0	0	0	1	1	0	0	0	0	0
Age or year when finished schooling	1	1	0	0	1	0	0	0	0	0	1	0	0	0
Current educational involvement	1	1	1	0	1	0	0	0	0	0	1	0	0	0
Outside reference on established standard	ISCED	ISCED	ISCED	ISCED	ISCED	ISCED	ISCED	ESS	ISSP	0	ESOMAR	0	0	0

1 ADS, anketa o delovni sili za leto 2010 (Labour Force Survey). SURS. Web, 7 Sept. 2012. <http://www.stat.si/metodologija_vpr_prikaz.asp?vpr_id=1832&tpod=0&kon=0&leto=2010>

2 Anketa o življenjskih pogojih 2010, EU-SILC. SURS. Web, 7 Sept. 2012. <http://www.stat.si/doc/vprasalniki/EU_SILC_2010.pdf>

3 Anketa o porabi v gospodinjstvih, vprašalnik za gospodinjstvo, 2010. (Household Budget Survey) SURS. Web, 7 Sept. 2012. <http://www.stat.si/doc/vprasalniki/EU_SILC_2010.pdf>

4 Raziskovanje o uporabi informacijsko-komunikacijske tehnologije v gospodinjstvih in pri posameznikih, 2010. (Information and Communications Technology) SURS. Web, 7 Sept. 2012. <http://www.stat.si/doc/vprasalniki/IKT-GOSP_2010_TEREN.pdf>

5 AIO, Anketa o izobraževanju odrasilih, 2007. (Adult Education Survey) SURS. Web, 7 Sept. 2012. <http://www.stat.si/doc/vprasalniki/AIO-2007.pdf>

6 ANKETA O ZDRAVJU IN ZDRAVSTVENEM VARSTVU 2007. (European Health Interview Survey)) IVZ. Web, 7 Sept. 2012. <http://www.ivz.si/podatkovne_zbirke?pi=5&t_5_Filename=423.pdf&t_5_MediaId=423&t_5_AutoResize=false&tpl=46-5.3>

7 Anketa o turističnih potovanjih domačega prebivalstva, ČAP/2010-I. (Tourism travels of domestic population, Slovenia) SURS. Web, 7 Sept. 2012. <http://www.stat.si/doc/vprasalniki/TU_CAP-1_2010.pdf>

8 SJM 2010 EVROPSKA DRUŽBOSLOVNA RAZISKAVA (EUROPEAN SOCIAL SURVEY, ESS 2010). ESS. Web, 7 Sept. 2012. <http://ess.nsd.uib.no/ess/round5/fieldwork/Slovenia>

9 Slovensko javno mnenje 2009/1 : Mednarodna raziskava: religija (ISSP 2008) in družbene neenakosti (ISSP 2009). GESIS. Web, 7 Sept. 2012. <http://info1.gesis.org/dbksearch/download.asp?id=16227>

10 Slovensko javno mnenje 2009/2 : Raziskava o nacionalni in mednarodni varnosti. ADP. Web, 7 Sept. 2012. <http://adp.fdv.uni-lj.si/podatki/sjm/sjm092-vp.pdf>

11 RMPLUS Podjetje za tržne raziskave in marketing d.o.o. (RMPLUS Company for market research and marketing Ltd.). Web, 7 Sept. 2012. <http://www.rmplus.si/>.

12 GFK Slovenija. Web, 7 Sept. 2012. <http://www.gfk.si/>

13 Mediana. Web, 7 Sept. 2012. <http://www.mediana.si/>

14 Valicon. Web, 7 Sept. 2012. <http://www.valicon.net/>

Table 2: Characteristics of the measures of Labour Status among surveys/institutions[18] (1 = True; 0 = False)

Characteristics of measure	ADS	EU-SILC	APG-VP	IKT-GOSP	AIO	EHIS	TU-ČAP/2010-I	ESS_SI_10	ISSP_SI_09	SJM092	RMPLUS	GFK	MEDIANA	VALICON
Close ended self-classification of current formal labour status	1	1	1	1	1	1	1	0	1	1	1	1	1	1
Full-time/part time job self-classification	1	0	1	0	1	1	0	0	1	1	0	1	1	0
Hours per week working	0	1	0	0	0	0	0	1	0	0	1	0	0	0
ILO labour status /reference week activity	1	1	1	0	0	0	0	1	0	0	0	0	0	0
Outside reference on established standard	ILO	ILO	ILO	ILO	0	0	0	ESS	ISSP	0	ESO MAR	0	0	0

Table 3: Characteristics of the measures of Private Household among surveys/institutions[19] (1 = True; 0 = False)

Characteristics of measure	ADS	EU-SILC	APG-VP	IKT-GOSP	AIO	EHIS	TU-ČAP/2010-I	ESS_SI_10	ISSP_SI_09	SJM092	RMPLUS	GFK	MEDIANA	VALICON
Information on all household members (age, gender)	1	1	1	0	0	1	0	1	0	0	0	0		0
Relation to reference person	1	1	1	0	0	1	0	1	0	0	0	0		0
Total number of household members	0	0	0	0	0	1	1	1	1	1	1	1		1
Number of household members of specific age categories	0	0	0	1	1	0	1	0	1	1	1	1		0
Explicit definition of household (shared expenses)	0	0	0	1	0	0	0	0	0	0	0	0		0
Implicit definition (period living in a household, has a permanent address)	0	0	1	0		0	0	0	0	0	0	0		0

18 See notes in Table 1.

19 See notes in Table 1.

Table 4: Characteristics of the measures of Income among surveys/institutions[20] (1 = True; 0 = False)

Characteristics of measure	ADS	EU-SILC	APG-VP	IKT-GOSP	AIO	EHIS	TU-ČAP/2010-I	ESS_SI_10	ISSP_SI_09	SJM092	RMPLUS	GFK	MEDIANA	VALICON
Detailed information on all household members' income sources	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Open-ended net household income	0	0	0	1	0	1	1	0	1	1	0	0	0	0
Close ended categories for self-classification	0	0	0	1	0	1	1	1	0	0	1	1	1	1

Information on household income is deemed as sensitive for direct and detailed asking of the question (Table 4). Thus all commercial surveys included the indirect questioning with the close-ended rough intervals for respondent self-classification. We can note only one example of the same kind among CJMMK surveys, the ESS. For a long time, open ended questions on income were used for measuring household and individual income at CJMMK. Obviously the ESS is in the extreme end of the input harmonisation requirement, as in line with the requirement to meet procedural equivalence in attitudinal chapters of questionnaires, it also influences the exact replication of the demographic questions, even if this is in contrast to the long established in house tradition. The EU-SILC does not contain question text for the income variables, as relevant information is taken from the Tax register. The method for construction of an international data file is output harmonisation, which allows for greater flexibility in survey design and execution (Rojas-Gonzalez, 2009).

2.4 Summary and Conclusions

Motivation is high to move forward toward national demographic standardisation among all the contacted representatives of different survey professionals' communities. A common impression is that such an effort would increase the sophistication in expertise, both about the conceptual meanings and characteristics of variables included, and about their operationalization and details in a form, appropriate for a questionnaire. A complete inventory of concepts and questions, with the textual description and definitions and with the proposed question text for different modes, would be useful to avoid mistakes and unnecessary variation in questionnaire design.

What we noticed from our case study is that current practice varies a lot, not only among institutions, but also among different surveys inside of an institute. The requirement for one time comparability with a particular international survey obviously dominates the production process. The experts from national institutions could have a stronger role in setting realist requirements that are agreed internationally, if

20 See notes in Table 1.

robust national standard demographic infrastructure exists. Most academic surveys have already included extensive set of demographic variables, as it is planed for many potential analytical uses. The government surveys and commercial surveys are urged to think about the further usability of the micro data that they collect, beyond the narrow purpose at hand. With this in mind some extensions in demographic block could be introduced without too much increase in costs of a survey. The comparability over time and across survey programmes, with increased secondary use, could easily compensate for additional expenses.

Conclusions are as follows:

- Organizational issues are as important as available expertise. The first step would be to assign responsibility and to define a formal goal of a project. SORS started some planning, that was influenced by the incentive of the Eurostat Task Force group. The ambition might go in direction of wider in-house harmonisation and dedicated support from the experts of particular field. This could be extended to include representatives from other sectors.
- Technical support, that is already there for some key variables in the form of classification servers, including the mapping between classifications, could be extended to include CAI instruments' templates and other tools. This would increase a buy-in of the proposed standards as it reduces the technical burden of preparing the data collection and analysis templates.
- Backward comparability is equally important as it is international comparability. An impression is that the later dominate and this reveals the weakness of internal national community of interests that articulate demands for added value micro data sets products, e.g. cumulative data sets over time.
- It is not always the lowest common denominator which could be proposed as an agreed standard. Flexibility could be retained without losing comparability (e.g. by enabling mapping between light and more elaborated versions of instrument).

Someone needs to take a lead based on specialists' expertise. SORS is well placed as it possesses both premium data for criterion values, in particular the last Census data, and the experts base. Wider international exchanges with similar initiatives, and inclusion of representatives of academic and commercial sectors, could put even more strength to the establishment of a well accepted tool.

Jindřich Krejčí

3 Standardisation of Socio-Demographic Variables in Surveys in the Czech Republic

The Czech Republic is a member of the European Union, OECD and other international organizations, which, among others, brings about the obligation to provide comparable data to international databases of social statistics. Moreover international comparison ranks among the basic sociological methods and international cooperation is an important factor in the current development of social sciences. Czech researchers cannot afford to stay away. Availability of comparable national data is a common condition for participation in international projects and for the preparation of publications with an international impact as well. At the same time, the transferability of national socio-demographic indicators into international standards is an important basis to achieve comparability.

The following text provides a brief description of the standardisation background and practice in the Czech survey research giving also two examples, application of international standard classifications of education and definitions of the household, used in survey research. This report is based upon my academic research experience; marketing research activities, where the standardisation for the purposes of international comparisons is equally important, are not dealt with here.

3.1 Resources and Activities in Standardisation

Construction of standardised tools to monitor socio-demographic characteristics in the Czech society has a much longer history than the country's membership in the international organizations mentioned above. The origin of official social statistics and thus of the standardisation of tools for their creation in the Czech lands dates back as far as the mid-19th century. Yet, it was not until the collapse of the Iron Curtain in 1989 that a general need for widely comparable social data suddenly appeared. At the same time, there have been rapid changes in many social systems and institutions with impacts on the measured characteristics - some took place in the 1990s, some are happening nowadays. This resulted also in gradual but radical changes in classifications and other standards used for purposes of construction of socio-demographics indicators in survey research.

Hence, in the 1990s the Czech survey research found itself in a somewhat confusing situation where different research projects applied different standards as well as their own specific procedures. Transferability into international classifications used in Western Europe was not commonplace and comparability over time also often proved questionable. The need to get involved in international projects preceded the creation of new official national standards useful for international comparisons. Therefore, comparable variables were often created ad-hoc for purposes of particular projects. This was sometimes done improperly without the required expertise. On the other side, in some cases

there were several standardisation activities focused on the same topic and more tools were successfully developed and implemented to solve the same problems.

The classifications of occupations can be seen as an example of this. In the early 1990s, the official standard was the Unified Classification of Occupations (Jednotná klasifikace zaměstnání - JKZ), which differs from the International Standard Classification of Occupation (ISCO) in terms of both, concept and content. Some researchers, however, were using a modified version of ISCO-68, which was first translated into Czech and Slovak in 1988[1].

Between 1991 and 1992, the Federal Statistical Office and the Institute of Sociology of the Czechoslovak Academy of Sciences, cooperated in testing of Czechoslovak version of ISCO-88. In 1993 the Institute of Sociology created the Czechoslovak variant of ISCO-88 for purposes of participation in the international project Social Stratification in Eastern Europe After 1989 (Matějů, Tuček & Vlachová, 1993). In this classification the international standard is extended by a number of Czech specific codes, e.g. there are separate codes for masters in major group 7 and also special groups for the former nomenclature cadres were added for purposes of the project.

One year later the Czech Statistical Office (ČSÚ)[2] released its version of a national variant of ISCO-88 under the title Classification of Occupations (Klasifikace zaměstnání - KZAM) (ČSÚ, 1996-2001). This also extends the international standard with certain specific groups and professions, yet also differs from the classification provided by the Institute of Sociology. KZAM was subsequently codified as a national standard for official statistics. Later on, in 1996, an extended variant named KZAM-R was published (ČSÚ, 1996-2001). In contrast to the four-digit code used in KZAM and ISCO-88, this uses a five-digit code and includes a detailed breakdown of professions for the purposes of national statistics. Both national variants, the Czechoslovak variant of ISCO-88 and KZAM and its derivative classifications, include detailed documentation and sets of different tools, e.g. conversion keys into ISCO-88 and others, and both are still used concurrently in many different projects.

A similar development can be seen in the current transition to ISCO-08. Again, sociologists prepared their own Czech version of ISCO-08[3] before the ČSÚ released the official national standard. CZ-ISCO, which is new national standard classification valid from 2011, uses a five-digit code where the last digit includes a more detailed breakdown for the purposes of national statistics (ČSÚ, 2011). However, in comparison with KZAM-R, the classification has been significantly simplified and the number of professions reduced and several changes have taken place, including restructuring or inclusion of new categories.

1 Before the split of Czechoslovakia in 1992 there were usually common standards for Czechia and Slovakia developed in two (or more) language versions.

2 ČSÚ is the successor of the former Czechoslovak Federal Statistical Office in the Czech Republic. ČSÚ website: http://www.czso.cz

3 Czech version of the ISCO 2008 has been prepared as a provisional tool without detailed guidelines and other related materials. Among others, it was used in EVS 2010, ISSP 2010 and some surveys of the Institute for Information on Education.

Currently, in the Czech Republic there is a number of national standard classifications and coding schemes in place, which are fully transferable to respective international standards. Yet the examples discussed below imply that some problems still remain.

The main sources of systematic standardisation are the ČSÚ's activities in this field and Czech participation in international research programs such as European Social Survey (ESS), International Social Survey Programme (ISSP), European Values Study (EVS), OECD longitudinal surveys on education and many other projects. A significant contribution to the development of standard instruments is also made by research projects addressing topics with a long tradition of empirical research, such as the social stratification (see example of occupational classifications above). As commercial agencies are commissioned to collect data, some standardised procedures of marketing research have penetrated the academic research as well. Proven tools are then taken over or variously modified in a variety of research activities.

A crucial part in the creation and implementation of standard classifications is played by the Czech Statistical Office (ČSÚ) and the basic standards are determined by legislation. Nowadays, these include 26 statistical classifications announced each year by the ČSÚ in the Collection of Laws of the Czech Republic. The standards are binding for authorities carrying out the State Statistical Service and for all of their data producers and data reporting units. Other classifications and indicators in addition to these official national standards are developed for particular ČSÚ's tasks and often they are also published. Majority of the national classifications (but not all) are derived from international standards used by Eurostat or are transferable to standards valid within the European Statistical System. These classifications are also the basis for the construction of socio-demographic indicators widely used in survey research.

An extensive documentation and tools including methodology guides, conversion keys and specialized publications are available with the classifications officially administered by the ČSÚ. Nevertheless, most of these materials exist in Czech only. Other classifications and standardised indicators used by the ČSÚ are not required to include such documentation, but information is often available in methodological sections of ČSÚ's publications, where the classifications were used.

The ČSÚ's website includes a section on classifications and nomenclatures, where materials are available for download. Although the site is available in English version as well,[4] most of the links unfortunately lead to documents in Czech. At present, the ČSÚ's Metainformation Database is being created to provide a new dynamic web-based tool for browsing and access to classifications, lists of codes and indicators.[5] The intention is to provide information in both, Czech and English. Nevertheless, only a beta version of the system with a very limited content is currently available.

Academic surveys commonly use many ČSÚ standards and international standards to construct a number of socio-demographic indicators. It also contributes to the crea-

4 English version of Classifications, Nomenclatures on ČSÚ's website: http://www.czso.cz/eng/redakce.nsf/i/classifications_nomenclatures

5 English version of Metainformation Database of ČSÚ: http://www.czso.cz/eng/redakce.nsf/i/metainformation_database

tion and implementation of new classifications and indicators. These activities, however, are less systematic than those performed by the ČSÚ, which is caused by the fact that academic research is conducted primarily in short-term grant projects. Also, there is no system of standard social indicators in the Czech Republic, which is why the formulation of relevant questions in the questionnaires, while striving to meet the same standards, often differs a lot among different surveys.

A number of internationally comparable indicators and classifications is developed within particular research projects and are not properly documented. Information on the procedures used is then often only available from the codebook. Nevertheless, more detailed methodological information, including reliability analysis, is included in the appendices of some analytical publications (e.g. classifications of social class and social status (Krejčí & Matějů, 1999; Katrňák & Fučík, 2010: 183 ff.). Reports and analyzes on methods of measurement are often published in journals Data a Výzkum - SDA Info[6] and Statistika[7].

The following part of the chapter takes a closer look at two examples of standardisation, application of international standard classifications of education and definitions of the household used in Czech surveys.

3.2 Options for Comparison of Formal Educational Attainment

Measurement of educational attainment is a key element for many topics of social research. In questionnaires, formal educational attainment is measured using two basic methods, a question or set of questions on number of years of schooling and a question or questions on highest completed education level or degree, where the respondent selects from categories of responses.

The first method is simple and the result is a cardinal variable, which extends the possibilities of statistical analysis. A higher number of years spent studying, however, does not always mean higher educational attainment. Beside level of completed education length of study is determined also by differences in various educational systems and opportunities to repeat years or to restructure and extend the course or by participation in various programs of lifelong learning, etc. In addition, there are many different possible wording of questions, which lead to different results (Hoffmeyer-Zlotnik & Warner, 2007: 130).

Yet, the other method, especially if international comparability is to be achieved, is not free of trouble either. What also matters, is the educational system and the type and field of education. Due to differences in education systems their particular levels are not fully comparable and a system of general categories must be constructed. This is complicated by the fact that there are a great number of significantly different educational systems. Not only do they vary in different countries, but they also change in these countries over time, meaning that respondents of a survey of the adult population in

6 On-line version: http://dav.soc.cas.cz (full texts in Czech, abstracts in English).

7 On-line version: http://www.czso.cz/csu/2011edicniplan.nsf/engp/1802-11 (English language).

one country usually studied in several different systems. In addition, in some countries, e.g. Germany, there are several different educational systems operated simultaneously.

Therefore, creating a unified international classification of achieved degrees of education is not easy; yet such standards have been developed and introduced. International Standard Classification of Education ISCED-97 is the standard for statistics within the UN, OECD and the European Statistical System and thus currently dominates also the sociological research. Alternative may be represented by CASMIN sociological classification, especially in academic research.

Using ISCED-97 brings about a number of problems, summarized by, among others, Schneider and Kogan (2008: 13ff.). At present, ISCED-97 is being revised and a new variant called ISCED 2011 is under development. However, these general issues will not be dealt with in this chapter, rather than that, we focus on problems in application of standard classifications in the Czech survey data.

Table 1: Correspondence of levels of education in KKOV classification and ISCED-97

KKOV Code	Level of education	ISCED-97 Code(s)
A	no formal education	0
B	incomplete primary education (at least first stage of primary)	1
C	Primary education	2
D	Lower secondary vocational education	2
E	Lower secondary vocational education with apprenticeship certificate	2
H	secondary technical education with apprenticeship certificate	3C
J	secondary technical education without Maturita diploma or apprenticeship certificate	3C
K	complete secondary general education with Maturita diploma (academic - gymnazium)	3A
L	complete secondary vocational education with Maturita diploma	3A 4
M	complete secondary technical education with Maturita diploma	3A 4
N	higher technical education (follow-up courses, conservatories)	5B 4
R	tertiary education - bachelor degree	5A (5B)
T	tertiary education - master degree	5A
V	doctoral degree or equivalent	6

Source: Czech Statistical Office [ČSÚ, 2011].

Czech social statistics are now using two valid official standards, Classification of Root Fields of Education (Klasifikace kmenových oborů vzdělání - KKOV) and the Czech version of ISCED-97. KKOV (ČSÚ, 2003-2008) is a simplified and updated version of the long time used classification JKOV (Unified Catalog of Fields of Education). The classification system has two dimensions. The first dimension is the classification of fields of study in groups identified by fields of science. What is essential for the topic discussed here is the second dimension, which captures the level of education achieved. The code is five-digit, with the initial four digits representing the major groups, groups and fields of education (two numbers) and the last alphabetic character indicating the level of education achieved. The level of education coded according to KKOV is not fully transferable to ISCED-97 (see Table 1), which is why dual coding using both classifications – KKOV and ISCED-97 - is usually applied for international comparability. The majority of academic surveys, however, use less detailed classifications, which, although inspired by KKOV, may be transferable.

Implementation of ISCED-97 to current Czech educational system has been described by Straková (2008: 216 ff.). Because ISCED-97 belongs to standard classifications defined by law in the Czech Republic detailed information can be found also in official guidance manuals and other detailed documentation, including regularly updated transformation diagrams[8]. Despite this, the application of ISCED-97 in Czech social science research is faced with fundamental problems, which are summarized bellow.

1) ISCED-97 is designed based on analyses of educational systems carried out at the time it was created. However, school systems in the Czech Republic, like elsewhere in the world, have changed over time. Guidelines and transformation diagrams show the system valid in 1997 and its subsequent modifications, but not for previous education systems. Moreover, the classification of some Czech specific levels of education in the ISCED-97 categories is not entirely clear, according to their general definitions of these categories. The methodologies deal with these problems, yet there are no guidelines for former systems, meaning that the same levels of education can be classified differently under different projects.
2) ISCED-97 has been an official standard in the Czech Republic only since 2007. Nevertheless, the classification was used before that date, although the guidelines were not available initially. Given that the classification of some Czech levels of education is unclear and the concepts of former Czech standards and ISCED-97 are different, the transformations done within projects realized before 2007 was sometimes in conflict with logic of ISCED-97 and later defined rules.

   Typically, errors stem from differences in meaning of terms. Primary education in modern education systems in the Czech Republic is represented by eight or nine completed years of primary school or a corresponding year completed at a secondary grammar school or conservatory. Czech researchers without detailed knowledge

8 See ČSÚ Web at http://www.czso.cz/csu/klasifik.nsf/i/mezinarodni_klasifikace_ve_vzdelani_(isced97). For example of the transformation diagram see e.g. Diagram of the educational system of the Czech Republic: school year 2009/2010 at Flornet.eu: http://www.flornet.eu/tl_files/pdf/education-in-cr-2009-10.pdf.

of methodology tend to classify this level of education as primary in ISCED-97 as well. Correctly, however, this is lower secondary education (OECD, 1999). Moreover, eight-year primary schools fail to fit the general description of ISCED-97 categories, where lower secondary education begins after completion of six years and ends after nine years of education. Respondents with completed Czech primary education have been wrongly classified also in some important international databases, e.g. the second wave of International Adult Literacy Survey (SIALS). Often the meaning of ISCED-97 categories is misunderstood by Czech data analysts and their international comparisons therefore may erroneously devalue the level of education in the Czech population.

3) If reduced version of ISCED-97 is used, e.g. 0 to 6 level of ISCED-97 without division into sub-categories, the variable's explanatory power and its validity decrease radically. The problem arises especially as a result of merging the sub-categories of upper secondary education into one group (level 3). In this case, individuals who completed their secondary education with the Maturita exams, which is a pre-condition of acceptance to universities in the Czech Republic, find themselves in one category with individuals without Maturita. Moreover majority of the population falls into one category, as a result of which the variable ceases to differentiate and the measurement validity and overall usefulness of the variable in the analyzes is radically reduced.

The problem is well illustrated in Table 2 which uses the fourth wave of the ESS data to compare the breakdown into original categories of the country specific question in the ESS questionnaire with the breakdown into reduced ISCED categories of the internationally comparable variable in the ESS database. Five different categories of the Czech variable are joined into ISCED 3 category of upper secondary education and this group includes nearly three-quarters of the survey's respondents. Naturally, when using the full version of ISCED-97 classification such situation would not occur, but for many analyzes the reduction into a smaller number of categories is necessary with regard to the usual size of data files.

4) Certain problems can also be caused by the definition of Category 1 in ISCED-97, i.e. primary education, which corresponds to completing the first stage of Czech primary schools or special schools. This level is not strictly separated in current Czech educational system and is not commonly inquired and thus cannot be distinguished within the group with incomplete primary education when transforming Czech variable into ISCED-97 (see also table 2).

Other problems with the use of ISCED-97 that Czech researchers face are more general and apply similarly in other countries as well. Even the ISCED-97's full version with 11 categories of education is sometimes insufficiently detailed. Probably the biggest problem is the failure to distinguish between bachelor's and master's degree. In contrast, some sub-categories are nearly or completely empty. For example, no education level falls within sub-category 2B in the Czech Republic. When dividing into sub-categories according to type of training program, substantively similar types of studies under dif-

ferent systems are placed into different sub-categories; practically and academically-oriented courses are then mixed somewhere and divided elsewhere.

Table 2: Highest achieved level of education: comparison of Czech national specific variable and standardised variable in the European Social Survey 4 (2008)

Highest achieved level of education of the respondent						
	ESS standardised variable (reduced ISCED-97)					
ESS Czech specific variable	Less than lower secondary ISCED 0-1	Lower secondary completed, ISCED 2	Upper secondary completed ISCED 3	Tertiary completed ISCED 5-6	Other	Total
Uncompleted primary	22					22
Primary		260				260
Vocational, no dipl.			644			644
Secondary, no dipl.			182			182
Vocational, diploma			138			138
Secondary technical, no diploma			397			397
Secondary academic, diploma			148			148
Higher education				33		33
Tertiary - Bachelor				28		28
Tertiary - Master				136		136
Post-graduate				27		27
Other					3	3
Total	22	260	1509	224	3	2018

Source: European Social Survey (ESS).

The information above implies that the ISCED-97 classification is not very appropriate for sociological studies of Czech society (also Schneider, S.L., 2008, 2010b). The upcoming standard ISCED 2011 is free of some of the aforementioned problems, e.g. university studies are to be divided into short, bachelor's, master's and doctoral programs. However, the above-mentioned problem in combining levels of education with and without the Maturita exam in the level of upper secondary education, which is essential for many research tasks, still remains.

In terms of alternatives to ISCED-97, Czech sociology makes the greatest use of the CASMIN classification, which was created in the project Comparative Analysis of Social Mobility in Industrial Nations. CASMIN is based on comparisons of different levels of education according to its length, required skills and curriculum content and the differentiation into general and professionally oriented education (Brauns, Scherer & Steinmann, 2003: 221 ff.). In the Czech Republic, the classification was used, among others,

in above mentioned project on Social Stratification in Eastern Europe After 1989. Table 3 uses data from this survey to show a relatively trouble-free breakdown into categories of the national variables and transformed international variables. In addition to the distinction between Maturita and Non-Maturita levels, an important dimension of Czech educational systems is also reflected in this classification in the distinction between general or academic and practically-oriented training programs.

The CASMIN classification corresponds to the normal requirements of benchmarking analyses including the Czech Republic undoubtedly more than ISCED-97 or ISCED 2011. However, as ISCED is a standard used for official statistics, it is increasingly gaining ground in international sociological researches as well, which is development that seems inevitable.

Table 3: Highest achieved level of education: comparison of Czech national specific variable and standardised variable in the Social Stratification in Eastern Europe After 1989 (1993)

Highest achieved level of education of first person in the household rooster*)

	SSEE standardised variable (CASMIN)								
SSEE Czech specific variable	Primary incompleted	Primary completed	Basic vocational	Secondary incompleted	Secondary vocational	Secondary academic	Tertiary completed	Post-tertiary	Total
Incompleted primary	43								43
Primary		285							285
Apprentice training without Maturita			420						420
Apprentice training with Maturita diploma					42				42
Lower secondary without Maturita				77					77
Secondary technical					240				240
Secondary academic (gymnasium)						59			59
College or university							118		118
Post-graduate								32	32
PhD degree								5	5
Total	43	285	420	77	282	59	118	37	1282

Source: Social Stratification in Eastern Europe After 1989 (SSEE).

Note: *) The variables were used for other members of the household than the respondent. Information on first person listed in the household rooster was choosen for purposes of comparison of the variables.

An overview of the use of different classifications of education for international comparison in sociological programs including Czech data is given by Soukup (2012). A solu-

tion until recently applied in the European Social Survey proved especially unfortunate from the perspective of Czech researchers. In the first three waves of the ESS (i.e. 2002, 2004 and 2006) the ISCED-97 scale was reduced to mere only four categories. While both the international standardised variable and the variable with the original national categorisation are available for the respondent, the data files only include the reduced ISCED variable for parents' education. Thus, for example any analysis of reproduction of education in the Czech society is virtually impossible. This practice greatly reduced the usefulness of the ESS database for Czech researchers. The situation is more satisfactory in other surveys as they contain standardised variables with a more detailed breakdown (e.g. PISA) or use more wisely constructed standardised variables while maintaining also an original national variables (e.g. EVS, ISSP).

3.3 Different Definitions of the Household

There is no common standard how to define households in social surveys in the Czech Republic. Czech surveys within international programs obviously adopt definitions determined by these programs, if applicable. The most of probabilistic sample surveys in the Czech Republic are household surveys and therefore, the definition of household is adapted to the technical requirements for the implementation of their sampling designs. In that case the household is usually defined on the basis of common housing of its members and in addition to it often also on the basis of joint management of household economy. The wording of questions in the socio-demographic section of the questionnaire usually corresponds to this practice. Nevertheless it should also be taken into account that due to often separation of fieldwork and construction of the questionnaire between different research teams, the household concepts applied in sampling process and in collection of data may be different.

For example, there are three different types of households and their definitions used by the Czech Statistical Office for purposes of organization of censuses and population surveys (ČSÚ, 2003):

- Dwelling household consists of persons living together in one dwelling.
- Private household (or housekeeping household in some ČSÚ's publications) is based on the statement of persons who live together in the same apartment that they perform the household management, i.e. they pay essential household expenses like food, housing costs, and other operating expenses related to the household or others. Private household also includes dependent children living in the household. Tenants and their families always form a separate private household.
- Census household is a basic unit, which consists of persons living together in one dwelling on the basis of their kinship or other relationships within the same private household. The private household may consist of one or more census households.

Additional terms related to the definitions of household are as follows:

- Complete family household: a married couple (or a common-law husband and a common-law wife) with children or without them.
- Incomplete family household: a single parent with at least one child. Multi-person non-family household: two or more persons that are relatives or not, who are on common budget.
- Single-person household: a single person.
- Head of household: in a complete family always the husband (common-law husband) regardless who is the user of the dwelling; in incomplete families of two generations always a parent; in three-generation families a member of the middle generation; in multi-person non-family households a person, who was marked as a head of household on common budget.
- Dependent children: persons aged 0-25 years, who are economically inactive and live at least with one of the parents.

However, even the ČSÚ does not apply one unified concept of household and the definitions of household used e.g. in the Survey on Income and Living Conditions or the Labour Force Survey are different from above described definitions used in census and population surveys.

3.4 Conclusion

The Czech Republic belongs to countries of Central and Eastern Europe, where demand for international comparative surveys came later than in Western countries, but then it has immediately shown with full intensity. At the same time, the volume of data produced has quickly and radically increased and the whole research industry has grown. As a result, new standardisation activities can seldom build on any of previous systematic developments and sometimes they have failed to satisfy the needs.

Tasks that need to be addressed are not trivial and by far are not limited to taking over and translating tools used in other countries. As seen in the example of implementation of the International Standard Classification of Education ISCED-97, there are national specific characteristics, which are difficult to classify using the existing international standards and which significantly complicate the use of these standards for international comparisons involving the Czech Republic. Methodological research and literature relating to such problems are still relatively scarce in the Czech Republic. Greater attention to this issue in Czech research and closer cooperation with international teams producing international standards are clearly desirable and could contribute to greater quality and efficiency of comparative research involving Czech society.

3.5 Acknowledgements

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Part 2: Cross-National Harmonisation

Petra Scheerbaum

4 The Concept of Eurostat: Fundamental Principals of the Final Report of the Eurostat Task Force on Core Social Variables

4.1 Background: Modernisation of social statistics

Official statistics in the European Union are developed by Eurostat in cooperation with the national statistical institutes (NSIs) and other national authorities, such as ministries and central banks. These partners form together the European statistical system (ESS) that was established successively in order to produce comparable European statistics.

Currently official statistics in the ESS are facing various developments.

- As Europe is growing and experiencing continuous changes, such as ongoing integration, the need for social policies is enhancing. Hence, the demand for reliable socioeconomic and demographic data to monitor and evaluate the policy implications on European level is increasing.
- Also, reducing the burden on respondents gradually becomes a problem in all social surveys as more and more politically relevant information is required.
- At the same time the resources that are available for official statistics are increasingly limited in most of the EU member states (Glaude, 2008). In this context, the need for greater time and cost efficiency is in discussion.

A move towards more rationalisation and an effective framework was envisaged. Eurostat and the member states agreed on the need for a "modernisation of the social statistics in the ESS". An agenda is currently being developed to improve social statistics and thus to better meet the challenges listed above. The implementation of the core social variables can be seen as an important cornerstone of the modernisation of social statistics.

4.2 European harmonisation of the core social variables

Political decision making in the European Union requires an appropriate basis of reliable statistical data covering all EU countries. Since official statistics play a key role as a supplier of such data, there is a need in the ESS for more standardisation of the concepts regarding the main social indicators in order to achieve a satisfactory level of comparability between the countries for international analysis (Everaers, 1998).

In 2005 the Directors of Social Statistics (DSS) decided to implement a set of harmonised core social variables in the social statistics of the ESS. It concerns the background variables that enable to relate the outcomes of different social surveys to social, demographic and economical background of the observed statistical units.

One year later a Task Force was formed to define the most relevant indicators. In 2007 the ESS member states have agreed on a systematically introduction of 16 selected

social variables into each social survey and the first report with recommendations was published (European Communities, 2007). The implementation that is based on a stepwise approach is to proceed in three waves in the period from 2011 until 2013. Each year a limited number of variables are to be introduced and, by 2013, the implementation should ideally be completed.

Above all, consistency across the relevant surveys in a country must be ensured, i.e. every single core variable has to be harmonised nationally. A coordinator has been named in each NSI to be responsible for national coordination and monitoring the state of implementation in these surveys. In order to enhance the international comparability, the member states have been expected to develop a consistent concept for each variable that complies with the EU standards.

The task of the statisticians involved is to participate in a continuous process of commenting, discussing, refining, modifying and enhancing the proposed concepts to achieve the best result from the trade-off between considering national realities and still preserving cross-national consistency.

There are basically two ways to achieve standardisation in terms of collecting data: input harmonisation and output harmonisation[1].

Input harmonisation takes place when the concepts and measurement methods that are used (wording and order of the questions as well as the response options) remain consistent across countries. Such data are comparable when the method is valid in all the countries, i.e. when an indicator with the same meaning is measured. Due to the different cultural backgrounds and legal systems in the 27 countries of the EU it is difficult to develop one single tool for all with an unambiguous meaning. Besides, the results are to be reasonably usable and analysable on the national level which is not necessarily always the case.

During output harmonisation obviously the statistical outputs are specified but the national statistical institutes decide about the methods to measure a certain variable. Different national categorisations are generally applied because the respondents do not necessarily know the meaning of internationally suggested concepts that always abstract to some extent from the national reality. Hence, output harmonisation considers the country-specific characteristics, whereas comparability is rather doubtful. The national categories are later translated from the national into the international classification. Apart from that, diverse techniques can be applied: from telephone interviews and paper questionnaires, over face-to-face interviews to registers, according to the national requirements. This also implies issues concerning the consistency of the collected data. However, output harmonisation seems to be a better way to encounter the reality in Europe.

Regardless of the particular harmonisation strategy, it seems essential that the member states orient themselves along the Eurostat guidelines. The definitions are clearly specified and the necessary information about the variables is provided. This must be implemented to the best of one's knowledge; the operationalisation of these concepts

1 This distinction has merely an analytical character; both strategies are to be understood as ideal types that do not appear purely in reality.

must be consistent. For some core variables input harmonisation is practicable, but in general merely output harmonisation is feasible.

The methodological guidelines concerning the implementing of core variables were last updated in May 2011. This document is only accessible to the community of official statistics so far. In the report each variable is shortly described, a rationale (an explanation of the relevance of the respective variable) is offered and a precise definition as well as the proposed categories for the transmission are provided. To make sure that the collection of data is performed coherently, a description of good practise is included. Three areas are concerned: demographic, geographic and socio-economic information.

Demographic Information	Geographic Data	Socio-Economic Information
Sex	Country of residence	*Educational attainment*
Age in completed years	Region of residence	*Self declared labour status*
Legal marital status	Degree of urbanisation	Status in employment
De facto marital status (Consensual union)		Occupation in employment
Household composition		Economic sector in employment
Country of birth		*Monthly net income of the household*
Country of citizenship		

It is not the objective of this article to give a description of all 16 variables. Rather, the four core social variables that were selected as a topic of the workshop will be addressed below.

4.3 Selected core variables

4.3.1 Educational attainment

Education is a decisive indicator in household surveys of official statistics since its impact on the social situation of individuals is well recognised. Furthermore, it highly correlates with the occupation in employment as well as the income and is used as a control variable in numerous analyses. In order to measure and to compare education cross-nationally a common but valid indicator is needed. Educational attainment serves as such an indicator. It provides information about the educational level that has been successfully achieved by an individual. Here, the highest level of education completed is measured.

For the measurement the International Standard Classification of Education (ISCED-97) is used. It was developed in the 1970s by UNESCO and is thus not Eurostat's own instrument. The educational programme is provided as the main classification unit which means that primarily the content of the respective educational programme is of interest for the classification. Completing a certain educational level comes along with obtaining certificates that are officially recognised as such (UNESCO, 1997). In other words, the

gathering of the actual formally completed educational level is the practise, whereas the informal competences or skills cannot be considered here.[2]

The basic classification comprises seven levels:

- ISCED 0 = no formal education
- ISCED 1 = primary education
- ISCED 2 = lower secondary education
- ISCED 3 = upper secondary education
- ISCED 4 = post secondary education (but not tertiary)
- ISCED 5 = tertiary education – first stage
- ISCED 6 = tertiary education – second stage

A further breakdown into complementary dimensions concerning the type of subsequent education or destination (for levels 2, 3, 4, 5)[3] and the programme orientation (for levels 2, 3, 4 and for each with A, B and C)[4] is not fully applied in the official statistics concerned, but partially in the Labour Force Survey so far. In other household surveys the simple one-digit level approach is used.

Educational attainment is a typical example for an output harmonisation. There are special features with regard to the national education systems, e. g. regarding the level of stratification. Therefore it appears reasonable that the NSIs collect the data on educational attainment with their established methods. A national categorisation of educational programmes can be available to enable the interviewees to classify themselves directly during the survey, or/and an open question can be provided. In that case the education variable is recoded afterwards using again the categorisation list. The open question is recommendable because there are certificates that cannot simply be assigned, especially qualifications achieved abroad. In the next step the well approved country-specific categories are to be translated into the proposed international classification system ISCED.

There are efforts towards input harmonisation and improvements of the classification of education are in progress. Current ISCED-97 will be replaced by ISCED 2011 (UNESCO, 2011). The implementation is planned for 2014[5].

2 If, for instance, an individual attended an educational programme but actually has not completed it he or she does not possess the necessary prerequisite in the context of the education variable. Also, the programmes that are not officially recognised in the respective country do not count.

3 The classification into A, B, C is based on the educational objectives of the individual. In 2A, for instance, all the educational programmes are concentrated which allow the access to a further level (3A or 3B). 2B then applies to educational programmes that enable further continuing in 3C since the individual does probably not intend to enter the labour market. With the completion of 2C the individual is prepared for entering the labour market by achieving needed practical skills.

4 "A" refers here to *general education*, whereas "B" represents *pre-vocational or pre-technical education* and "C" stands for *vocational or technical education*.

5 The implementation date refers to field work, i.e. the first dissemination is scheduled for 2015.

4.3.2 Self declared labour status

For social statistics measuring the labour status is relevant because this indicator correlates with the income as well as the socio-economic status. To classify individuals according to their present economic situation is helpful in order to determine the potential for their future labour market involvement. The labour status shows the economical activity of a person; in principle employment and non-employment are distinguished. A person who is actually capable to work (i.e. is employable) but does not work is classified as unemployed.

Apart from unemployment there are diverse reasons why a person is not economically active. People who are retired or disabled to work will probably not return to the labour market, whereas students and people currently engaged in home duties are more likely to step back into the labour market.

The conceptualisation of the self declared labour status as used in the European household surveys refers to the self-perception of the main activity status. This approach is very practical since the current situation and the activity on which an individual spends most of the time are considered and can be simply monitored with one question, and the response is up-to-date. It differs from the ILO[6] concept where the employment situation in the last week is observed and a number of additional questions are necessary. According to the ILO concept students or retired persons are classified as employed if they worked at least one hour in the reference week. However, this gives no reliable information about the present economic status of that person.

The classes for transmission are the following:

Employees and the self-employed are merged in one category[7]:

- carries out a job or profession (including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc.)
  Furthermore, "full time" or "part time[8]" is covered here.

The remaining categories of persons who are not active in the labour market:

- unemployed
- pupil, student, further training, unpaid work experience
- in retirement or early retirement or has given up business
- permanently disabled
- compulsory military or community service[9]
- fulfilling domestic tasks
- other inactive person

6 International Labour Organization.

7 The core variable "*status in employment*" distinguishes between the self-employed and the employees. The latter are further divided into those with "permanent job or work contract of unlimited duration" and "temporary job or work contract of limited duration".

8 No exact distinction between full time and part time is provided in the guidelines. Rather the respondents are free to answer spontaneously since the variable collected is based on self-perception.

9 This variable is not collected in all the member states, since the military service is not compulsory any more in many of them (e.g. the Czech Republic, Belgium, France, Germany, Sweden).

The labour status alone, however, is not sufficient to depict the social status of a person. This should be borne in mind; the economical aspects covered here should not be misinterpreted. To approximately describe the reality it is necessary to consider other variables, such as education, etc, too.

4.4 Private household

In social statistics households rather than individuals often serve as the reporting unit. A look at a private household reveals more than merely a look at the sum of its members. The structure of living together, i.e. the relationships between the persons can be better observed on the household than on the individual level. Furthermore the social situation of a person can be soundly analysed in the household network.

A consistent operationalisation of the private household is particularly needed for the calculation of the equivalised net monthly income of the household.[10] Not merely the income, but also the indicators that are calculated subsequently (e.g. poverty rate) depend on the determination of household composition. Its importance or rather the importance of its validity on the international level should not be underestimated.

This core variable is compounded of the size and type of the respective household as well as the economical activity of its members. "Household size" refers to the total number of persons. Additionally, the individuals are divided into six age classes.

The age groups are the following:

- younger than 5 years
- 5 to 13 years
- 14 to 15 years
- 16 to 24 years (additional number of students in this age group)
- 25 to 64 years
- 65 years and older

As regards the sub-variable "household type" one-person and multi-person household are distinguished. The latter can be further differentiated into:

- lone parent with child(ren) below 25 years
- couple with child(ren) below 25 years
- couple without child(ren) below 25 years
- couple or lone parent with child(ren) below 25 years
- other persons living in the household

"Other type of household" is also provided.

The household relationship matrix method as it is used in the Survey on Income and Living Conditions (SILC) or the Labour Force Survey (LFS) is well recommended for computing the household type. With this tool, the respective familial relationships of the

10 The extent of the equivalised household net income depends strongly on household composition, i.e. the number of individuals in specific age groups. The concept that is used by Eurostat will be described below.

household members are covered by measuring the particular relation to one reference person (mainly head of household).

As for the "economical activity" the self-declared labour status is decisive to obtain the number of persons aged 16 to 64 that are either at work or economically inactive.

A precise definition of private household that can be used in all European household surveys and is thus internationally comparable appears very important since different concepts and traditions exist in the member states (Hoffmeyer-Zlotnik & Warner, 2008). The comprehension of who is or is not a member of a particular household is not self-explanatory. Hence, we find a detailed description in the methodological guidelines: A household assembles all individuals that live together (on a place of their main residence) and share their expenses (contributing to the expenses and benefiting from the expenses). The two dimensions, namely living together and sharing expenses are crucial. Family ties are thus not sufficient to build a household in the above described sense. In order to ensure a standardised conceptualisation of the private household this specification should ideally be written down in a paper or web questionnaire respectively be read out by the interviewer when using CATI or CAPI.

According to this short definition, household members are:

- persons who are usually resident[11], either related or not to other household members;
- persons with no private address elsewhere intending to stay for one year or more; this can apply to resident boarders, lodgers, tenants, visitors, live-in domestic servants, au-pairs, persons usually resident but temporarily absent (for reasons of holiday travel, work, education or similar);
- persons with no private address elsewhere, continuing to retain close ties with the household, as children of household members being educated away from home, persons absent for long periods but having household ties (e.g. persons working away from home), child or partner of another household member;
- persons temporarily absent but having household ties (e.g. persons in hospital, nursing homes or other institutions), with clear financial ties to the household, actual/prospective absence less than one year.

It does not seem necessary to include all the points mentioned above in the questionnaire. Rather listing a few concrete examples of the borderline cases could be helpful for the respondents to correctly assess the membership of the relative individuals.

4.5 Net monthly income of the household

The total household income serves as an indicator of economic well-being in the social surveys. It refers to the available financial resources a household can spend, invest or save and thus indirectly to the standard of living. It indicates the extent of wealth and poverty. A number of components can be integrated in the income concept, such as income from work, social benefits, dividends, etc.

11 Usually resident means that the individual spent most of their daily rest in the household in the last year.

The income variable defined by Eurostat compounds of dimensions that should be mentioned shortly: First, **net** income is the amount a household receives after deduction of tax and contributions to social insurance and pensions. This amount can be spent, invested or saved. Second, **monthly** income means the average monthly income in the reference year. It is ideally calculated from the yearly income by dividing it by 12. Last but not least, **household** income refers to the income of all current household members.

The central components are outlined below:

- income from work: employee income, self-employment income,
- income from social benefits: unemployment benefits, old age and survivors' benefits, sickness and disability benefits, family/children related allowances, social exclusion allowances, housing allowances and education-related allowances,
- other cash income components: profit from capital and investment, dividends, income from rental, cash transfers from other households received regularly,
- cash transfers paid to other household have to be subtracted.

It is important that the wording is clear enough to the respondents. To recall the main components it is helpful to name them in a detailed and directly manner in the question. The recommended practice is to collect information on income with an open question at a first stage. Alternatively, categories with income ranges can be provided if the individuals do not want to name the particular amount or if they even do not know the exact sum. At least ten classes should be used in that case.

However, the income cannot be compared without taking the household composition into account because a two-person household normally does not spend the double amount of a single-person household. For this purpose the standard (OECD modified) equivalence scale was designed which has been used in the ESS, too. The first adult person in the household gets a weight of 1.0; every other household member aged at least 14 gets a weight of 0.5 and a child younger than 14 gets a weight of 0.3.

To illustrate this with a concrete example: A household with a lone parent with two children, one child under 14 and the other over 14, has an equivalent size of 1.8 (1.0 + 0.3 + 0.5). If the household had a net income of 1400 Euros, then each household member would get an equivalised income of 778 Euros (1400 Euros / 1.8) per month. Thus, a three person household of the above type does not need three times, but only 1.8 times as much income as a single person household in order to achieve the same level of prosperity.

The equivalised net monthly income is transmitted in quintiles. The first proposal was to use deciles for classes (European Communities, 2007). This was revised in the new document; quintiles have had to be computed since 2011.

4.6 Implementation in the surveys

The implementation progress in official statistics is shortly outlined in this part. The following yearly surveys are conducted in private households on a legal basis:

Labour Force Survey (LFS)[12], Survey on Income and Living Conditions (SILC), survey on ICT-usage[13] in households and by individuals.

- SILC has already fully implemented the core variables, and it serves as an example for the other household surveys.
- In the LFS merely the household income does not comply with the EU standards. The remaining 15 variables have already been implemented.
- In the ICT survey a range of core variables had to be introduced rather than harmonised since they had not been measured before. As for 2012 this applied to eight variables. Beyond that, the remaining variables were introduced optionally even for 2013. The member states are free to decide if they take their time. So, the effective implementation will possibly not be completed until 2013 as it was foreseen.

Surveys that are based on a gentlemen's agreement are the Household Budget Survey (HBS) carried out every five years and the Time Usage Survey (TUS) conducted every five to ten years. There is still a number of indicators that are collected but do not fully comply with the core variables. A higher level of harmonisation across the member states especially regarding the surveys that are conducted every few years would be possible with a respective legal basis, i.e. an EU Regulation.

Regarding the European Censuses, the 2011 period was too early for an effective standardisation of social variables. However, the implementation is envisaged for the next wave 2021.

The remaining surveys that are affected by the implementation of core variables are listed below:

- Adult Education Survey (AES)
- Health Interview Survey (EHIS)
- European Survey on Health and Social Integration (ESHSI)
- European Safety Survey (SASU)
- Structure of Earning Survey (SES)

Apart from the SES, all the 16 core variables will be introduced in the four surveys above (AES, EHIS, ESHSI, and SASU) before the next waves will be conducted between 2012 and 2014.

12 LFS data are collected quarterly.

13 Information and Communication Technologies

Jürgen H.P. Hoffmeyer-Zlotnik

5 Harmonisation: From National Concepts to Cross-National Measurement Instrument

If one wants to compare data across different surveys, a core set of independent variables needs to be asked in a standardised way in these surveys. Typically, this core set includes demographic and socio-demographic variables. The standardisation of socio-demographic variables, when measurement across countries is the goal, becomes harmonisation. Comparing countries, and thereby spanning diverse cultures and national structures, is a challenge since each culture and each country has its own social, political, and institutional structures, with country-specific concepts behind these structures. The cultural differences between social groups result from common internalized values and meaning interpretations that are restricted in space and time as well as from institutionalized forms of living of the people in these groups (Klein, 2001: 196). The cultural differences become visible when looking at socio-demographic variables: there are different definitions of the concepts of household and/or family, differences in the promoting of gainful employment and in attitudes towards such promoting or different structures of education systems. Different national structures can be found in national institutions (e.g. schools), in the national setup of the labour market or regarding taxation laws and social regulation.

5.1 Harmonisation – a process in five steps

The differences listed above illustrate that comparing cultures/countries is not an easy undertaking. What is needed is identifying the common core between cultures, between national structures and focusing thereon. This needs to be done for each response category. Based on what is common to all, a comparison then becomes possible. If one aims at comparing different surveys, standardisation is needed – the different instruments need to measure the same things. However, since differences in social meanings and/or institutional structures prevent that exactly the same things can be measured across different cultures/countries, one has to harmonise, which involves using the same underlying measurement concept for the issue of interest in the different cultures/countries. For many variables, this calls for rejecting the response categories typically used in national surveys and developing common categories which measure the intended concept.

The harmonisation of socio-demographic variables is a five-step-process (Hoffmeyer-Zlotnik, 2008: 12 ff.; Hoffmeyer-Zlotnik & Warner, 2011: 36 ff.; 2012a: 35 ff.). These steps are listed in the following:

1) First, the researchers jointly working on an international project have to agree on what they want to measure. A detailed description of the variable is needed. This description should include what is to be measured across countries and what the goal of

this measurement ultimately is. Furthermore, it needs to be specified how detailed the measurement should be or to what extent subdivisions should be made.

Taking the measurement of "education" as an example, the different national partners in an international project need, first of all, to clarify how they want the concept of "education" to be understood in the light of their research question. Since in general population surveys the skills or knowledge level as such cannot be measured (this would be too complex), a more formal criteria will have to be used. Hoffmeyer-Zlotnik and Warner (2012a: 37) need the education variable for two purposes: First, it is an important variable (together with occupation and income) for determining the socio-economic status of a respondent. Second, and there is a strong interconnection with the first statement, "education" in numerous countries determines the level at which a person enters the labour market. "Education" can be measured based on the certificates received, with certificates including both general education and vocational education. This focuses the search for or the development of a measurement instrument on the structure of the national education systems, with their different possible degrees, rather than on any content of learning.

The measurement of "household" can be used as another example. Also here, the measurement goal needs to be discussed first. Why is the variable needed, and what exactly should the variable measure? Opposing goals may exist. On the one hand, the household variable is needed to select the target person, being a person of the unit "household", and to ask a certain number of questions on the unit "household". In this regard, "household" should be understood as living under one roof, to the extent possible, and being limited in the number of persons included. On the other hand, "household" stands for an arrangement of mutual support. In this regard, when the focus is, for instance, on income and expenditure, all persons being part of this arrangement should be included. This refers to the student not living in the parental home any more as well as to a weekend commuter who during the week lives somewhere else.

2) During the second step, each country/culture participating in a project has to identify the national/cultural concepts behind a jointly defined variable and the structures making up these concepts.

Taking again the "education" example – for each country, the education system, consisting of general education and vocational training institutions, needs to be analyzed. How is the national education system set up? Which degrees are based upon each other? Which degree gives access to which higher level in the system? Which degree opens up which job opportunities on the labour market? It is important, already at this stage, to gain an overview of the different paths in the education system leading up to a given qualification. Moreover, what possibilities are there for lateral entries? To be able to understand the structure of the system, one has simultaneously to understand the concepts behind this structure: How is "education" perceived in society? Which concepts underlie the individual elements of the education system? Last but not least, what kind of meaning does the basic degree, that is, the lowest possible degree, in society have, and what kind of meaning does the society assign to the different types of schools offering more advanced qualifications?

The "household" variable is a good example for the requirement to look into the cultural concepts behind a given term first before attempting to clarify how the different structures resulting from these concepts can look like. In Italy, "household" is synonymous with "family", and "family" does not only include parents and their offspring but all persons related up to the third degree and considered as belonging to the family, regardless of their current place of residence. Such an understanding of "household", however, is inappropriate when it comes to selecting the target person. In this understanding of household, also the "guest worker" abroad is a member of the household. However, there is no fieldwork agency which, if the guest worker was selected as the target person, would send the interviewer from Rom to Mannheim, for instance, to conduct the interview with the "right" target person or to postpone the interview until the target person is back home for a holiday. At the same time, including the "guest worker" in the "household" definition is appropriate when the financial situation of the household is of central interest; after all, "guest workers" support their family at home, especially in times of crises, by sending them money.

3) After the researchers participating in an international project have looked into their respective national structures and the concepts behind these, and after they have identified the similarities and dissimilarities in definitions and/or structures across countries, they have to select the appropriate measurement instrument. First, they need to check whether national instruments in all countries exist that measure the same things in view of the research question. If this does not apply, researchers should look out for an international instrument (if available). The requirement to measure socio-demographic structures across a few or many countries is not a new one. The United Nations (UN) have been facing this requirement even since their foundation; UN special agencies, such as the International Labour Organization (ILO) or the United Nations Educational, Scientific and Cultural Organization (UNESCO), have developed instruments for international comparison to fulfill their own needs. Still, any adoption of such international instruments requires that researchers assess these instruments against the goals of their own research question.

For the measurement of "education", numerous relevant instruments are available, such as the International Standard Classification of Education (ISCED-1997; ISCED-2011; UNESCO, 1997; UNESCO-UIS, 2011), the CASMIN (Comparative Analysis of Social Mobility in Industrial Nations) Educational Classification (Brauns, Scherer & Steinmann, 2003) or the Hoffmeyer-Zlotnik/Warner Matrix of Education (Hoffmeyer-Zlotnik & Warner, 2007; 2012a: 162 ff.). However, researchers have to check carefully whether one or several of these instruments indeed measure what they want to measure in line with their research question. Furthermore, several other instruments exist and are known primarily because they are used in surveys (Hoffmeyer-Zlotnik & Warner, 2012a: 143 ff.) and not so much because of their mentioning in the literature, such as the „years of schooling".

Step 3 is where the difficulties begin with the "household" variable. Each country/culture has its own definition of "household"; and some countries/cultures not even use the term, as shown above with Italy. In Italy, "household" is always synonymous with

"family"; in Portugal, this can occasionally be the case. The national statistical offices of all 27 EU member states have their own definitions of "household", which are not comparable to each other (Hoffmeyer-Zlotnik & Warner, 2008). Even Eurostat, the statistical office of the EU, uses a different definition of "household" in each of their surveys (Hoffmeyer-Zlotnik & Warner, 2008: 115 ff.).

For the variable "household", there is no reference instrument of the official statistics.. Academically-run international surveys have so far widely neglected the issue or made use of national definitions that come from the principal investigator and his or her national survey background. In ESS Round 1, for instance, the interviewer is given the definition of the English concept of "household" (European Social Survey, 2002: 11; see also Hoffmeyer-Zlotnik & Warner, 2008: 35).

4) The fourth step involves the selection of the type of harmonisation. Two pure types can be distinguished: output and input harmonisation. In practice, intermediate types exist (Hoffmeyer-Zlotnik & Warner, 2012a: 36). "Output harmonisation" means that the data are collected with national instruments which match the research question and are suitable for subsequent country comparison. Harmonisation in this case occurs at step 5. "Input harmonisation" means that a measurement instrument is newly developed which can then be used in all participating countries/cultures and which measures the intended concept in a comparable way. National measurement instruments are not used. In this case, harmonisation takes place at step 4 prior to data collection.

When measuring "education" according to the output model, that is, based on national instruments, care needs to be taken that harmonisation is possible at step 5. Thus, it can become necessary to collect additional information to what is typically collected with the national instrument, or response categories need to be further sub-divided. Decisions such as these depend on the category system that is going to be used for the international comparison. National instruments should only be used when all researchers, based on their analyses conducted during steps 1-3, agree that a comparison is possible based on national categories. The input harmonisation model is not based on national instruments. Instead, categories are used with concepts equally applying to the different countries or cultures. These categories can be rather abstract. It is the researchers' task to make sure that these categories can be understood by the respondents in the different countries or cultures. This means, categories that presuppose an explanation should not be used; furthermore, categories that cannot be answered should not be used. In an education system where the basic degree is awarded after 9 or 10 years of schooling, nobody can leave the system with a degree after completion of the 4-year primary education. In many European systems today, the transition from primary to secondary education is the time to change the type of school but not to leave the system altogether. However, should any leaving of the system at this point of time have been possible in the past, the category needs to be formulated in a more restricted way.

In terms of the "household" variable, by now – at the latest – it needs to be clear what one wants to measure and how "household" is to be defined. For "household", the only harmonisation type to use is input harmonisation. The variable needs to be implemented in such a way that respondents in all countries/cultures understand what is meant. The

best way to proceed is having a definition understood in all cultures, even though a different interpretation thereof across cultures cannot fully be ruled out, and to add lists of inclusion and exclusion for persons that should be included and excluded, respectively (Hoffmeyer-Zlotnik & Warner, 2008: 64 f.).

5) If output harmonisation has been the choice at step 4, step 5 now involves harmonisation: The data, collected based on national categories, are mapped to a common category system that may be rather abstract and require longer definitions and examples. Unlike with respondents, researchers can be confronted with such a system. The International Standard Classification of Occupations (ISCO) serves as an example. The classification reduces the international world of occupations (in Germany alone, there are 30,000 occupations) to 390 (ISCO-88) or 433 (ISCO-08; ILO, 2008) more or less abstract job activities, respectively. These are defined in the case of ISCO-88, for instance, on about 500 book pages.

For measuring "education", output harmonisation is often used because many of the internationally used instruments are based on the national classifications. However, a major part of the international category systems requires information that goes beyond what is typically collected in national surveys and which needs to be collected in addition to the usual question(s). For ISCED 1997, for instance, it is not only necessary to know that a respondent completed his or her general schooling with the Abitur (≈A-levels). It is necessary as well to collect information on the type of school where the Abitur was done and the path that was taken in the education system to obtain this qualification.

5.2 Rules for harmonisation

There are eight rules for the harmonisation of socio-demographic variables in international social science surveys (Hoffmeyer-Zlotnik & Warner, 2011: 39 f.; Hoffmeyer-Zlotnik, 2008: 11 f.; Hoffmeyer-Zlotnik & Wolf, 2003b: 404 f.). These are listed below and after cited after Hoffmeyer-Zlotnik & Warner (2012b, chapter 2,3, in press):

1. „Agree on a common definition of what you wish to measure with each variable.
2. Make sure that this common definition denotes comparable things in each of the survey countries.
3. Analyse the national concepts and structures behind the variables to be measured. Each researcher should act as a specialist for his or her country.
4. For each individual variable, identify the similarities between the national concepts and structures.
5. Find a valid indicator, or a set of valid indicators, that represent(s) both the variable in question and the specific national characteristics thereof.
6. Decide whether the variable should be converted to a common classification system before data collection begins (input harmonisation), or whether it should measured with the usual country-specific instrument. In the latter case, the data are mapped to a common instrument or classification system after collection (output harmonisation).

7. If input harmonisation is chosen, test whether the common measurement instrument or classification system realistically reflects the empirical structures in the individual survey countries and is logically related to the jointly developed definition of the variable to be measured.
8. Make sure that the common instrument can be understood by average lay persons irrespective of their national or cultural context, and that all respondents can answer the questions correctly."

Part 3: Harmonised Socio-Demographic Variables

Jürgen H.P. Hoffmeyer-Zlotnik and Uwe Warner

6 How to Survey Education for Cross-National Comparisons: The Hoffmeyer-Zlotnik/Warner-Matrix of Education[1]

Abstract

Social surveys collect information on socio-demographic characteristics of respondents eligible for the interview. Among others, the highest attained level of education is one of the variables explaining the respondent's social and political comportment, the interviewee's human values and orientations, the transition from school to work, the position in the labour force and its segments, the social and economic behaviour of the individual actor and structural inequalities in modern societies. Manifold strategies to operationalise the qualification and education variables during interviews can be observed in social surveys. They differ in the underlying latent concept captured, the ranking and classifying of levels into categories and clusters, the degree of classification and measurement details and finally the capabilities of comparison across time and across nations and cultures.

The measurement of education for comparative research across countries is a complex task. The national systems of education and schooling are differently organized across the nations. Altogether four different types of school and training systems can be identified in Europe. In this paper we will sort the national certificates from general and vocational schools into one matrix, the newly developed Hoffmeyer-Zlotnik/Warner-matrix of education. This matrix allows us to compare the highest level of education a person has reached, as a combination of general and vocational education and useable for a person to obtain a starting position on the labour market. This article discusses those measurement instruments normally used in international comparative surveys and introduces the Hoffmeyer-Zlotnik/Warner-matrix of education, contrasting this matrix with the other established measurement instruments. To demonstrate the validity of our matrix, we show the advantages of our matrix exemplified in one case from nations out of the four types of different educational systems: Germany, Luxembourg, Denmark, and France.

1 This article is a reprint from "Metodološki zvezki" (2007), Volume 4, Number 2: pp. 117-148. http://mrvar.fdv.uni-lj.si/pub/mz/mz4.1/hoff.pdf [accessed 15 October 2012].
The figures 1 to 4 are updated in 2012 and the links in the references are controlled and updated by June 30 in 2012.

6.1 The problems

Because of their historical development and their political tradition, national education systems are particular for each nation. In general, each school system incorporates in general education the pre-school, the basic school and the continuing education leading to a university entrance diploma. Between basic education and university entrance diploma several school leaving certificates are possible. Basic education can be finalized after eight, nine, or ten grades and university entrance diploma can be reached after 12 or 13 grades. In between there are zero, one or two gradual possibilities to leave a school system in Europe with qualifications valid on the labour market. Beside general education different types of vocational instructions, school or/and enterprise based training and academic schools up to universities, are eligible to complete vocational education. Often it is a mixture of general and vocational education which leads to a higher level of education.

For survey researchers designing questionnaires and measuring education, scientific expertise is necessary to identify all possible combinations of general and vocational education for one country. A comparative approach starts with a schematic outline. Common to all national educational systems are four sections:

- The primary section, including the pre-school (up to 4 years) and basic education for 4 or 6 years of schooling;
- the lower secondary section, which in most European countries covers the general education until the end of basic education with a first school certificate after 8 to 10 years of schooling;
- the upper secondary segment, which includes the school institutions until the entry of high school, and the professional training until the first vocational certificate that allows to execute the learned profession; the upper secondary segment on general education ends with the university entrance diploma;
- the tertiary section, containing all the different types of schools providing further vocational education, the applied universities and the universities with academic education until research qualifications are obtained.

So far, three common anchor points can be identified. First, the basic degree which differs across countries by duration of schooling and the pupil's age sanctioned with a school leaving diploma. Second, the highest possible degree of general education as the entry point to university, in general obtained after 12 or 13 years of schooling. And finally the end of university education with the PhD thesis (not considering the fact that in some countries a higher university diploma as PhD is possible, like the German "Habilitation") entering into research professions.

The differences across the national education systems are based on various objectives about the optimal function and the aims of education. The institutionalization of schooling is driven by national ideologies and traditional developments, and education is finally codified in national law.

The definition of "basic education" varies across countries. The meaning of "basic" has an impact on the duration of schooling for a successful basic degree, the description

of compulsory full-time school, the differentiation into parallel types of schooling and the split off point into further specialized courses. In Germany, this horizontal differentiation takes place before the end of basic education while in France or in Denmark, this separation comes after having obtained a basic degree. It is obvious that there is an impact on the parent's decision for further education for their children. Characteristics influenced by the definition of basic education are the national structures of the school institutions: Are there diplomas built one upon each other hierarchically and depending on each other? Do diplomas increase in their validity to enter the labour force and built on upon as sequences of educational careers? Beside this vertical structure are there horizontal differentiations of parallel educational institutions? Is it intended and possible for pupils to switch from one track to a parallel upwards path in the school career? And if so, how difficult is it to change? How permeable are the national types of school?

The national education systems are also structured by

- the (legal) rules on entry and leaves to dedicated school types and levels,
- the duration of minimum and maximum schooling periods,
- the possibilities to repeat classes and examinations, and
- the maximum number of allowed repetitions.

An important factor is the degree of side by side existence of private and public schooling in the general and professional training sectors. Of course, the transition from general to vocational sectors characterizes the national school system. The differentiation of professional education certificates and their following up rules are of importance. An important question concerns the political and social acceptance of schools and their diplomas as well as the legal and political control of the state. All these elements distinguish the European educational systems.

6.2 The four types of national educational systems

This section describes the educational systems of four European countries: Germany, Luxembourg, Denmark, and France. Each of these countries stands for one of the four different types. All educational systems in Europe can be assigned to one of these four different types. The four types of educational systems differ in main and fundamental points:

The first type, represented by Germany:

- The primary school runs for a short number of years: around 4 years.
- The lower secondary sector is much differentiated with three or more types of different schools.
- The upper secondary sector consists of one type of general school, but is much differentiated into parallel tracks with different types of vocational schools.
- The tertiary sector consists of parallel schools providing further vocational education, applied universities, a greater number of academic high schools and universities.

- The lower secondary, the upper secondary and the tertiary sector are clearly separated from each other.

The second type, illustrated in the case of Luxembourg:

- The primary school runs for a longer number of years: around 6 years.
- The lower secondary sector consists of a limited number of school types and of low horizontal differentiation.
- The upper secondary sector encloses different types of general and vocational schools.
- The tertiary sector contains schools providing academic vocational education and the newly founded university in Luxembourg.
- There is a distinct separation of the tertiary sector from upper secondary education, however, the passages from lower to upper secondary schools are quite simple to manage.

The third type is represented by Denmark:

- The primary school is combined with lower secondary school to a comprehensive school.
- The upper secondary sector has a large repertoire of types of general schools and one type of vocational school.
- The tertiary sector shows small differentiation from schools providing vocational education to universities.
- The primary and both secondary sectors of schooling are integrated, only the tertiary education is separated.

The fourth type is represented by France:

- The pre-primary school with duration of three years is optional, but 99.9% of the three-year-olds attended pre-primary school in 1998/1999 (Eurydice, 2003: 12).
- The primary school takes for a longer number of years: around 5 years.
- The lower secondary sector is one type of schooling without differentiation.
- The upper secondary sector consists of low vertical differentiation.
- The tertiary sector is much more differentiated with schools providing vocational education, specialized universities and general universities.
- The primary and lower secondary branches of the educational system are integrated and the upper secondary and tertiary sector are clearly separated.

These descriptions of the national education institutions are in line with the typology of colleagues from the Dutch Social and Cultural Planning Office (SCP, 2004: Table 3.1, p. 101) for the EU-25 countries. They sort Germany, Belgium, Netherlands, Hungary and the Czech Republic into the first type of education systems. Using the degree of separation between the educational sectors, the selectivity of each sector and uniformity versus heterogeneity of the secondary education as sorting criteria, they class Luxembourg, Austria and Slovakia into the second model of school systems. Together with Denmark they identify Finland, Sweden, Portugal, Estonia, Lithuania, Poland and Slovenia for the third version of educational systems. The forth family gathers countries like France,

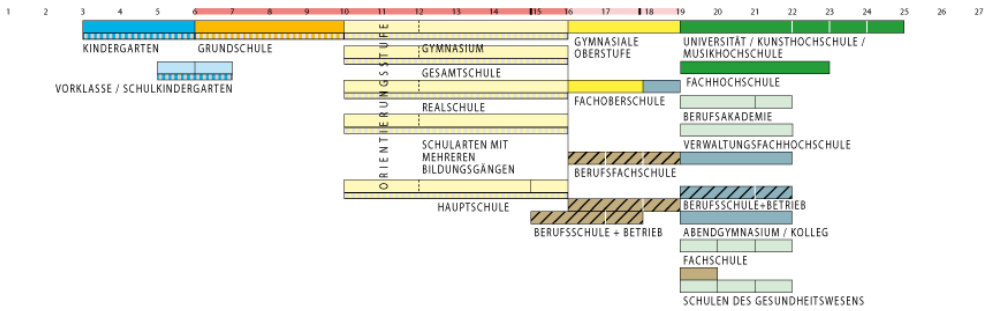
Greece, Ireland, Italy, Spain, the United Kingdom, Cyprus, Malta and Australia as school systems with homogeneous vertical sectors, but horizontally the upper secondary and the following tertiary education are clearly separated in parallel tracks.

6.2.1 Education in Germany

In Germany, compulsory education lasts for 9 school years. From their sixth year of age onwards children attend "Grundschule" for 4 classes. After this primary part, pupils can choose at least between three types of secondary schools: "Hauptschule" for the next 5 school years, "Realschule" that runs for 6 school years, or "Gymnasium" for the next 8 to 9 classes.

Leaving "Hauptschule" with a sanctioned certificate, pupils have finished the lower secondary education; now vocational training in the dual system or in vocational school is possible and becomes the normal school career. After successfully finishing "Realschule" it is possible to continue with "Fachoberschule". "Abitur" is the diploma obtained at the "Gymnasium"; it is the standard entrance diploma to university and finishes upper secondary education. Other types of upper secondary education are various types of vocational schools leading to professional diplomas.

The German tertiary sector is differentiated into a wide range of schools providing vocational and academic qualifications. The range goes from vocational school (Fachschule) to technical college (Fachoberschule), university of applied sciences (Fachhochschule) and to university.



Source: European Commission, Eurypedia, 2012a: European Encyclopedia on National Education Systems. Germany 2011/2012.

Figure 1: Educational system in Germany

In Germany, national social surveys ask for finalized general and vocational education using two different questions (Statistisches Bundesamt, 2004: 9 f.):

1st The general education (see table 1) is measured by certificates. There is the basic education degree reached after the 9th class, in some particular cases the 10th class, which certificates finalized basic education. A second family of certificates is obtained after the 10th class in upper secondary schools, in general specializing in applied qualifica-

tions. A third group of certificates with either general or more applied orientation is achieved after the 12th class, allowing a conditional university entrance for specific subjects or leading to universities of applied sciences. A fourth group of certificates with general orientation is achieved after the 12th or 13th class and is considered the university entrance diploma. In Germany, education varies over the sixteen federal states. In different federal states, school types and certificates have different names; but all certificates are in equivalence to one of the named four types.

2nd The vocational education (see table 2) also is measured by certificates. Different leaving certificates from the dual system (alternate teaching in full-time schools and in the firms "on the job") with two grades, different types of vocational full-time schools with in general two grades, and finally the different diploma issued by the universities of applied sciences and from general and technical universities exist.

Table 1: Highest level of general education Germany, Demographic Standards 2004

Categories	
0	von der Schule abgegangen ohne Hauptschulabschluss (Volksschulabschluss)
1	Hauptschulabschluss (Volksschulabschluss)
2	Realschulabschl8uss (Mittlere Reife)
3	Abschluss der Polytechnischen Oberschule 10. Klasse (vor 1965: 8. Klasse)
4	Fachhochschulreife, Abschluss Fachoberschule
5	Allgemeine oder fachgebundene Hochschulreife / Abitur (Gymnasium bzw. EOS)
6	anderer Abschluss, welcher? .....

Source: Statistisches Bundesamt, 2004: 9

Table 2: Highest level of vocational education, Germany, Demographic Standards 2004

Categories	
0	Keinen beruflichen Abschluss und nicht in der Ausbildung
1	beruflich-betriebliche Berufsausbildung (Lehre) abgeschlossen
2	beruflich-schulische Ausbildung (Berufsfachschule, Handelsschule) abgeschlossen
3	Ausbildung an einer Fachschule, Meister-, Teschnikerschule, Berufs- oder Fachakademie abgeschlossen
4	Fachhochschulabschluss
5	Hochschulabschluss
6	anderer Abschluss, welcher? .....

Source: Statistisches Bundesamt, 2004: 10

Based on these question outcomes, German social survey research needs a two dimensional matrix to construct the rank order concerning educational attainment or a hierarchical social hierarchy of educational levels. Table 3 shows the categories for Germany filled with the data from the European Social Survey, round 1 (data collection in 2002, ESS, 2002a).

Table 3: General education by vocational education, Germany, ESS 1st round

	general education by degree							
vocational education by degree	non	8th/9th class	10th class	12th class	Abitur*) 12th/13th class	others	column %	total N
non	14.3	64.8	11.5	0.8	7.0	1.6	10.1	244
dual system	1.4	49.2	42.2	2.4	4.7	0.2	48.0	1161
vocational school	0.7	31.6	46.3	8.8	11.8	0.7	5.6	136
vocational college	0.0	27.0	49.2	11.8	11.5	0.5	15.8	382
univ. of applied sciences	0.0	3.8	24.6	27.7	41.5	2.3	5.4	130
university	0.3	1.4	2.4	7.4	86.1	2.4	12.2	296
others	1.4	28.2	52.1	5.6	9.9	2.8	2.9	71
row %	2.2	37.4	34.9	6.2	18.5	0.9	100.0	2420

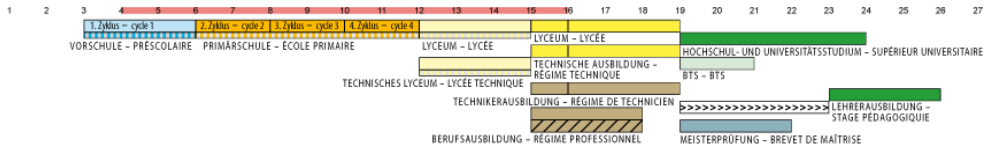
*) University-entrance diploma

Source: German subset of ESS round 1 provided by the ESS national coordinator in Germany, computation by the authors

6.2.2 Education in Luxembourg

In Luxembourg, the primary school starts at the age of 6 and ends at the age of 11. There is no vertical segmentation during the 6 grades of primary education. A first orientation to further schooling is possible at the pupil's age of 12. The secondary sector is divided into complementary, technical and general schools and lasts until the end of compulsory schooling at normally 14 years. At this age, a second orientation allows pupils to choose between the upward paths leading to professional, technical and general certificates ending the upper secondary sector. The duration of "lycee" varies between 3 and 7 classes.

The upper secondary education is very diverse and the third sector contains several professional educational institutions. Several vocational schools and a university of applied sciences do also exist on the tertiary sector, including for some years now the University of Luxembourg.



Source: European Commission, Eurypedia, 2012b: European Encyclopedia on National Education Systems. Luxembourg 2011/2012

Figure 2: Educational system in Luxemburg

Table 4: Highest level of education, Luxembourg, ESS 1st round

Categories		Total	Valid Percent
0	Pas de diplôme/qualifications	20	1.3
1	Ecole primaire	254	16.7
2	Primaire supérieur	120	7.9
3	Enseignement complémentaire	98	6.4
4	Certificat d'enseignement secondaire technique inférieur	52	3.4
5	Certificat d'apprentissage	22	1.4
6	Certificat de Capacité Manuelle	22	1.4
7	Certificat d'Initiation Technique et Professionnelle	36	2.4
8	Certificat d'Aptitude Technique et Professionnelle	237	15.6
9	Diplôme de technicien (jusque 13e dans le régime technique)	36	2.4
10	Bac technique (jusque 13e ou 14e du régime technique)	50	3.3
11	Enseignement secondaire général inférieur	115	7.6
12	Diplôme de fin d'études secondaires	139	9.1
13	Brevet de maîtrise artisanale	32	2.1
14	Enseignement supérieur - BAC +2	53	3.5
15	Enseignement supérieur - BAC +3	57	3.7
16	Enseignement supérieur - BAC +4	57	3.7
17	Enseignement supérieur - BAC +5 ou plus	57	3.7
18	Enseignement supérieur – Doctorat	11	.7
19	Autre: Précisez	43	2.8
Total		1523	100.0

Source: ESS round 1, computation by the authors

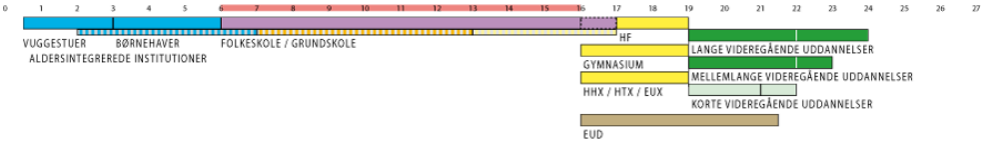
Social survey questionnaires in Luxembourg measure education in one question (see table 4). The response categories proposed to the respondent group all certificates into possible categories covering all combinations of certificates common in the country.

The listed categories are those 19 different response categories used in the European Social Survey, round 1 (fieldwork in 2002, ESS, 2002a). Here, the question concerns the highest level of education. On first glance, the proposed certificates are much more detailed than in Germany and Denmark and do not summarize the national education system. The labour market in Luxembourg is characterized by a very high proportion of non-Luxembourgish employees and workers who are not educated and trained in the national education system. Therefore, the response categories also cover equivalences of qualifications obtained in the neighbouring countries of Luxembourg.

6.2.3 Education in Denmark

In Denmark, compulsory education starts at the age of 6 at "Folkeskole" and lasts 9 years long for all pupils (as comprehensive school covering primary and lower secondary school). Either a voluntary 10th year, or the Gymnasium (for 3 years), or vocational education follows.

The general upper secondary education is much more diversified than in Germany, whereas the primary and lower secondary sectors are unified into one track of schooling and the tertiary sector offers three types of high schools.



Source: European Commission, Eurypedia, 2012c: European Encyclopedia on National Education Systems. Denmark 2011/2012)

Figure 3: Educational system in Denmark

The European Social Survey asks for educational levels in Denmark using ten categories (see table 5). These ten categories are oriented at the seven levels of the International Standard Classification of Education (ISCED, 1997) demanded by the coordinators of the European Social Survey.

Table 5: Highest level of education, Denmark, ESS 1st round

Categories		Total	Valid Percent
0	Ingen skoleuddannelse, ingen erhvervsuddannelse	2	0.1
1	1.-6. skoleklasse, ingen erhvervsuddannelse	18	1.2
2	7.-10. skoleklasse, ingen erhvervsuddannelse	351	23.5
3	Gymnasium, HF, HH, HTX, ingen erhvervsuddannelse	103	6.9
4	Erhvervsfaglige uddannelser, håndværkeruddannelser, social og sundhedshjælperuddannelser	594	39.8
5	Arbejdslederuddannelser for faglærte	32	2.1
6	Videregående uddannelser på 2-3 år efter gymnasium Eller faglig uddannelse	137	9.2
7	Videregående uddannelser på ca. 4 år efter gymnasium eller faglig uddannelse	149	10.0
8	Bachelor eller kandidateksamen fra universitet	98	6,6
9	Overbygning på universitetseksamen, Ph.d., licentiat	10	0.7
Total		1494	100.0

Source: ESS round 1, computation by the authors

The certificates of the Danish educational system are:

- "Folkeskolens Afgangsprøve" basic education after 9 years
- FS10 or Efterskole, adjusted "Afgangsprøve" after 10 years
- Studentereksamen, university entrance diploma after 3 years college

There are different types of colleges: the general screen (gymnasium and HF, higher preparatory examination), the commercial college (Højere Handelsgymnasium HHX, higher commercial examination), the technical college (HTX, higher technical examination).

As Vocational Education and Training (VET) there are two steps of dual training principles building on each other:

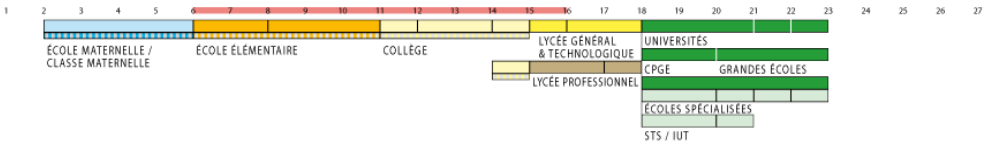
- VET basic courses typically last 20 weeks
- VET main courses typically last 3 to 4 years
- the higher education, short cycle build on to a VET program
- the higher education, medium cycle 3 to 4 years
- the higher education, long cycle: bachelor 3 years
- candidatus 2 years, build on bachelor
- PhD

(Undervisnings Ministeriet, 2000: chapter 2)

6.2.4 Education in France

In France, for nearly 100% of the children schooling starts at the age of about three years with the "école maternelle" (pre-school education). The elementary school starts with six years and ends at the age of 10. The secondary sector begins at the age of 11 and ends after four years of school with national brevets. The second stage of the secondary sector is built from the general and technical high schools (lycée d'enseignement général, lycée d'enseignement technologiques) and the professional high school (lycée d'enseignement professionels) and takes between three and four years. Mostly, the diploma obtained at the general high school leads to university education, other diplomas of higher professional education to employment. Compulsory education lasts until the pupil reaches the age of 16 years.

The French educational system is characterized by less differentiated institutions leading to the tertiary schools. A differentiation can be seen at the university education and the non-university education with the "grandes écoles" (elite schools for civil engineering and public administration) and various professional schools.



Source: European Commission, Eurypedia, 2012d: European Encyclopedia on National Education Systems. France 2011/2012

Figure 4: Educational system in France

The French data from the European Social Survey (2002a) show that 74% of the surveyed persons have obtained diploma at the end of the upper secondary education (see table 6).

Table 6: Highest level of education, France, ESS 1st round

Categories		Total	Valid Percent
1	Sans diploma	133	8.9
2	Non diplômés du CAP BEP filière professionnelle	57	3.8
3	Certificat d'études primaries	67	4.5
4	Non diplômés jusqu'à la fin 3ème, 2nde, 1ère filière general	191	12.7
5	CAP, examen de fin d'apprentissage artisanal	186	12.4
6	BEP, BP, BEA, BEC, BEI, BES	143	9.5
7	Brevet élementaire, brevet d'étude du premier cycle, brevet	76	5.1
8	Baccalauréat général, brevet supérieur	165	11.0
9	Brevet de technicien, baccalauréat de technicien, baccalauréat profession.	93	6.2
10	Diplôme universitaire du premier cycle (DEUG), diplôme universitaire de technologie	155	10.3
11	Diplôme universitaire des deuxième et troisième cycles, Doctorat	236	15.7
Total		1502	100.0

Source: ESS round 1, computation by the authors

6.3 Measurement instruments for cross-national comparison

Today, in comparative research five instruments are used to measure and to compare the different level of education across countries and systems (Braun & Müller, 1997: 163 ff.; Hoffmeyer-Zlotnik & Wolf, 2003b: 389 ff.):

- years of schooling,
- the "CASMIN Educational Classification",
- the "Hoffmeyer-Zlotnik Educational Classification", and
- the "International Standard Classification of Education" (ISCED, 1997), and finally
- the "sectors of education".

6.3.1 Years of Schooling

In surveys for cross-country comparison, the instrument "years of schooling" is the most widely used measure of education. Two problems can be discovered using this scale.

The first problem is the item that should be measured: time or grades. In an educational system where it is allowed to repeat classes, it is not meaningful to count the time. For counting the time in school, the starting point and end point should be defined very explicit and must be clear to the respondent. "Years of schooling" only is meaningful if grades are counted during the interview and are used by the researcher to compare qualification across countries.

The second problem is the question wording. Each survey uses its own question and focus on the information in slightly different manners. As consequences slightly different facts are measured by the unlike question stimuli. The following four questions are examples:

- The European Social Survey (ESS, 2002a), round 1, question F7 asks: "How many years of full-time education have you completed?"
- The International Social Survey Programme (ISSP) asks about "years (of full time) schooling including university but not vocational training" are completed.
- The General Social Survey (GSS) of the U.S. asks about "grades" and "years of college" (NORC and Roper, 1996: 49).
- The German Sozialwissenschaften-Bus 1996 (Social Science Bus survey) question wording is: "In which age did you leave general school?" (GFM-GETAS/WBA, 1996: 2).
- the French Census (1968 till 1982) is asking about age when the respondent completed school (IECM & IPUMS, 2006: edu-2-).

All five questions generate different answers. ESS and ISSP obtain the number of years spent in educational institutions, and the ISSP does not include years spent in vocational education. The American GSS (General Social Survey) asks for grades. The German Social Science Bus survey and the French Census ask about the age when the respondent left or completed school; but counting the live time has nothing to do with a higher degree of education because it is unknown in which age the respondent has started school, and it is unknown how many years were repeated.

6.3.2 The CASMIN Educational Classification

The CASMIN Educational Classification "distinguishes educational levels according to their selectivity effects. In this respect, the schema claims functional equivalence of its educational categories across countries. The criterion of selectivity combines two perspectives: demarcation of typical class-barriers in the educational system on the one hand, and identification of decisive signals for utilisation on the labour market on the other. Following these considerations, the CASMIN schema is constructed as a certificate-oriented classification" (Brauns, Scherer & Steinmann, 2003: 222).

Table 7: **The CASMIN Educational Classification**

Level	CASMIN	Description		
Tertiary	High	3b	Higher tertiary education: The completion of a traditional, academically-oriented university education	
	Low	3a	Lower tertiary education: Lower-level tertiary degrees, generally of shorter duration and with a vocational orientation	
Secondary	High	2c_voc	Vocational maturity: Full maturity certificates including vocationally-specific schooling or training	
		2c_gen	General maturity: Full maturity certificates (*e.g.* the Abitur, A-levels)	
	Mediate	2a voc	Intermediate vocational qualification, or secondary programmes in which general intermediate schooling is combined by vocational training	
		2b gen	Intermediate general education Academic or general tracks at the secondary intermediate level	
	Low	1c voc	Basic vocational training above and beyond compulsory schooling	
		1b gen	General elementary education	Social minimum of education. It generally corresponds to the level of compulsory education
Primary		1a	Inadequately completed general education	

voc=vocational education, gen=general education

Source: Brauns, Scherer & Steinmann, 2003: 223

The CASMIN Educational Classification is a hierarchically structured measurement of certificates and is two dimensionally separated into general and vocational qualifications (see table 7). This classification is based on the institutional structure of educational sectors and divides the secondary part into three hierarchical steps and the tertiary sector into two sub categories of professional oriented certificates and academic degrees.

6.3.3 Hoffmeyer-Zlotnik educational classification

The Hoffmeyer-Zlotnik Educational Classification (Hoffmeyer-Zlotnik, 2003a: 245 ff.) is also based on recognized school leaving qualifications. National certificates from general and vocational education are combined. Having in mind the average occupational prestige a respondent can obtain on the labour market by the acquired combination of certificates, this classification rank orders the categories by the Standard Interna-

tional Occupational Prestige Scale (SIOPS)[2] developed by Treiman (1977; Ganzeboom & Treiman, 2003: 159 ff.). Hoffmeyer-Zlotnik's main argument is that for executing a profession a socially recognized qualification is necessary and of central importance. This obtained qualification leads to a corresponding amount of social reputation as long as the educational institutions are controlled by the state and the achievement of a diploma is required for exercising that profession. Combining educational outcomes and the occupational activity is (at least for modern societies) important, because the accreditation of occupational carriers depends on the achieved educational background.

Table 8: Hoffmeyer-Zlotnik Educational Classification demonstrated at the case of Germany

Code	General Education	Professional Training	average occupational Treiman prestige
1	no basic degree	none	14-20
2	basic degree	none/unfinished	15-20
3	no basic degree	vocational	20-30
4	basic degree	vocational	20-35
5	basic degree	vocational school	20-35
6	middle degree	none/unfinished	20-35
7	middle degree	vocational	25-35
8	middle degree	vocational school	25-45
9	higher degree	vocational	30-40
10	higher degree	vocational school	40-55
11	middle degree	vocational college	50-65
12	higher degree	technical college	50-70
13	higher degree	university, 1st degree, BA	65-75
14	higher degree	university, 2nd degree, MA	70-78
15	higher degree	university, doctorate, Dr./Ph D	70-78

Source: Hoffmeyer-Zlotnik, 2003a: 254

This classification does not distinguish between sectors of education but covers the various combinations of general and vocational certificates. It allows an overview on the rating of certificates and their close match to occupational prestige in a studied country. Table 8 illustrates the relation between general and vocational education and the average prestige scores of German respondents.

2 SIOPS derives from the International Standard Classification of Occupations (ISCO-88) and measures the professional activity of an observed respondent.

6.3.4 International Standard Classification of Education – ISCED 1997

The "International Standard Classification of Education – ISCED", (UNESCO, 1997: 195 ff.; 2003: 195 ff.) was developed by UNESCO in the seventies. The major aim was to unify statistics on education levels of the population. A first international classification was established at the International Conference on Education in Geneva 1975 and revised in Paris 1979. The actual version of this classification was rebuilt in 1997 and offers a common set of concepts, definitions and classifications establishing a frame for collecting data and presenting comparative indicators on outcomes of the school systems. It covers all teaching and learning activities organized in educational institutions for pupils and adults from pre-school education to continued schooling and training as well as general and vocational education. Seven main categories of this classification serve policy-makers, administrators in educational and cultural management and researchers to compare education across the different systems and across countries.

The levels of education (see table 9) are constructs based on the assumption "that educational programmes can be grouped, both nationally and cross-nationally, into an ordered series of categories broadly corresponding to the overall knowledge, skills, and capabilities required of participants if they are to have a reasonable expectation of successfully completing the programmes in these categories. These categories represent broad steps of educational progression from very elementary to more complex experiences with the more complex the programme, the higher the level of education." (UNESCO, 2003: 201).

6.3.5 Sectors of education

The grouping of levels of education into three sectors is often executed in the censuses of different countries. It is understood as a compliance with the UN classification of standard levels of educational attainment. The used categories (IECM & IPUMS, 2006: edu-5) are

- the primary education,
- the first stage of secondary education,
- the second stage of secondary education,
- the post secondary education.

The use of this scale of schooling varies across the countries according there national educational systems. Countries like Austria do not use the first category, and there are countries like the UK using only the fourth category.

Table 9: International Standard Classification of Education – ISCED 1997, Levels of Education at a Glance

Proxy Criteria for Contents		Name of the Level	Code	Complementary Dimensions
Main Criteria	Subsidiary Criteria			
Educational properties, School or centre-based, Minimum age, Upper age limit	Staff qualification	Pre-primary education	0	None
Beginning of systematic apprenticeship of reading, writing and mathematics	Entry into nationally designated primary institutions/programmes, Start of compulsory education	Primary education, First stage of basic education	1	None
Subject presentation, Full implementation of basic skills and foundation for lifelong learning	Entry after some 6 years of primary education, End of the cycle after 9 years since the beginning of primary education, End of compulsory education, Several teachers conduct classes in their field of specialisation	Lower secondary education, Second stage of basic education	2	Type of subsequent education or destination, Programme orientation
Typical entrance qualification, Minimum entrance requirement		(Upper) secondary education	3	Type of subsequent education/destination, Programme orientation, Cumulative duration since beginning of ISCED level 3
Entrance requirement, Content, Age, Duration		Post-secondary non tertiary education	4	Type of subsequent education/destination, Cumulative duration since beginning of ISCED level 3, Programme orientation

Proxy Criteria for Contents		Name of the Level	Code	Complementary Dimensions
Main Criteria	Subsidiary Criteria			
Minimum entrance requirement, Type of certification obtained, Duration		First stage of tertiary education (not leading directly to an advanced research qualification)	5	Type of programmes, Cumulative theoretical duration at tertiary, National degree and qualification structure
Research oriented content, Submission of thesis or dissertation	Prepare graduates for faculty and research posts	Second stage of tertiary education (leading to an advanced research qualification)	6	None

Source: UNESCO, 2003: 203.

6.4 Problems of misclassification

In the fields of official statistics and of academic survey research, ISCED 1997 is an often used instrument to classify education in an international comparative framework. But the ISCED-classification is not easy to use. Each of the seven levels is classified by criteria for the definition and dimensions for the description of a specific level and program. The levels 2, 3, and 5 are subdivided by programs. These programs are designed for direct access to a higher level (UNESCO, 2003: 204 ff.). Without specific knowledge of the national educational systems and without a basic understanding of the ISCED-classification in national contexts, researchers produce misclassifications because of the complex constructs and combinations at each level. Table 10 shows the different classifications done by OECD, by the European Social Survey national coordinating teams, and by Hoffmeyer-Zlotnik and Warner using the survey data from the ESS round 1 for the countries of Germany (DE), Luxembourg (LU), Denmark (DK), and France (FR).

The ISCED-classification for the European Social Survey is done by the different national coordination teams. Experts for a specific social or political content (but not for education) have classified the survey answers into the common standards of ISCED 1997. Wide differences between ESS and the official statistic from OECD were detected in all categories. However, the differences differ from country to country. Here are the most visible reasons for misclassification:

Level 0: In countries with compulsory school attendance until a certain age level, 0 is not possible. In educational systems where graduations are considered as school leaving certificates, pupils can not successfully attain a diploma before ending compulsory school, but they can be selected as respondents for interviews. Some researcher may place those respondents on level 0.

Level 1: In this category persons are grouped together who left school with a first recognized school leaving certificate but before reaching the lower secondary sector. Some researcher may place people who left school with formal or non basic graduation from school types of the lower secondary sector.

Level 2/3: In level 2 and level 3 general education from all school types in the lower (level 2) und upper secondary sectors (level 3) are positioned. Level 3 ends with the university entrance diploma independent from the type of school where the graduation is reached: on public or private schools (upper secondary sector), on general or vocational education.

Level 3 is not only ascertained by general education but also by lower grades of vocational education like the graduation from the dual system apprenticeships.

Level 4: “Post secondary, non tertiary” defines all graduations beyond school leaving certificates from general school and/or vocational education in dual system or full-time schools before starting college or university of applied sciences or university.

At this level, the master diploma for craftsmen are clustered. Also, all non general education degrees are located on this level that are necessary to enter university like hands-on training. But only a small group of the European population is concerned by this category.

Table 10: ESS data[1] for DE, LU, DK, and FR classified into ISCED 1997 a) by OECD, b) by ESS national coordinating teams and c) by Hoffmeyer-Zlotnik & Warner (in % of the country)

ISCED97 levels	ISCED97 by OECD[3]	ISCED97 by ESS	ISCED97 by HZ/W
Germany[2]			
0+1	2	2	2
2	14	14	14
3	52	57	57
4	6	5	5
5	23	20	20
6	2	1	1
Total	100	100	100
Luxembourg			
0+1	19	26	14
2	3	9	13
3	48	38	47
4	6	3	2
5	20	4	23
6	2	20	1
Total	100	100	100
Denmark [4]			
0+1	1	1	1
2	16	16	16
3	51	49	49
4	n	14	14
5	32	20	20
6	n	1	1
Total	100	100	100
France			
0+1	15	20	14
2	20	30	10
3	41	3	46
4	n	16	0
5	24	12	28
6	x	18	2
Total	100	100	100

1) Population: 25 to 64 years old
2) For Germany the ISCED97 by ESS and the ISCED97 by HZ/W column are identical because of the strong collaboration between the ESS national Coordinators and the authors of this paper
3) Source: OECD, 2006: Education at a Glance, p 37, table A1.1a
4) For Denmark we were not able to reclassify the ISCED97 categories, because the Danish ESS used the ISCED levels as response categories during the fieldwork.
x included in ISCED97 level 5
n either negligible or zero

Level 5: This group of education certificates contains all college diplomas and university sanctioned degrees like bachelor and master not leading to an advanced research qualification.

Level 6: This highest level is dedicated for all university degrees exclusively for the successful submission of a thesis or dissertation leading to an advanced research position. In some countries, in our example France, the level 5 and 6 are merged together.

In Germany, the authors assisted the German ESS coordinating team recoding the nationally collected data to ISCED 1997 classification. In Denmark the national ESS coordinating team did not use a national measurement instrument for the data collection on education. They fielded a questionnaire offering immediately the ISCED categories as response possibilities to the Danish respondents. Therefore, in Germany and Denmark there is no difference between the classifications of the ESS national coordinating teams and the classification of Hoffmeyer-Zlotnik and Warner. In Luxembourg, however, the national ESS coordinators overestimated graduations at the levels 0 and 1 and they located all different academic degrees at level 6. In France, the national ESS coordinators also overestimated graduations at level 1, they allocated the graduations from level 3 at level 2 and level 4 and they place all persons with a university degree superior to bachelor at level 6.

6.5 Hoffmeyer-Zlotnik/Warner matrix of education: A new instrument for comparing education cross-nationally

The Hoffmeyer-Zlotnik/Warner (HZ/W) matrix of education has the advantage to minimize the errors of misclassifications produced by the other survey instruments. In addition to the institutional typologies presented in section 6.2 we introduce the school leaver's chance to enter the labour force as a complementary dimension to compare education systems across countries. The definition of the HZ/W-matrix is based on the assumption that education is an indicator for a person's qualification or certificated competence to start employment on the labour market at a specific position or at a workplace appareled with a well defined amount of social reputation. In this sense, education, as a combination of general and vocational training, is the entrance to the labour market and to anticipated occupational prestige.

6.5.1 Constructing the Hoffmeyer-Zlotnik/Warner matrix of education, with ten categories

The HZ/W-matrix of general education by vocational education (table 11) uses the answers of the national questionnaires about the highest general educational level obtained and the highest vocational education degree answered by a respondent. One dimension presents the "general education" and the other axis displays the "professional education" including high school and university diploma. All possible degrees – relevant

in the national education system – are rank ordered from not applicable, the lowest level (1) to the highest grade (10).

Table 11: Hoffmeyer-Zlotnik/Warner matrix of education – Principles

vocational education	ISCO major groups	general education – grades, no certificates				
		non	basic degree	second degree	third degree	university-entrance diploma
non	9,8	1	2	3	6	7
dual system	8,7	4	4	5	5	5
vocational school	4,5	4	4	5	5	5
vocational college	3,4	0	5	5	8	8
college of higher education	2,3	0	0	9	9	9
University	2	0	0	0	10	10

The rank order for general education is given by grades of school. These grades in an educational system are orientated at the standard periods statutory prescribed for the different existing school leaving certificates going from basic degree to general qualification for university entrance.

The basic degree reached after class 9 is significantly lower than a basic degree obtained after class 10. But nevertheless each system is characterized by a basic degree as the first recognized diploma that allows entering the labour force with a minimum chance to get a job.

University entrance diplomas have the same significance across all educational systems and in all studied countries. Everywhere these certificates are reached by the end of the upper secondary education. The university entrance diploma is granted after class 12/13 ("Abitur", "Studentereksxamen", "baccalauréat", the English "A-levels"). Also, the university entrance right can be reached by an equivalent to a university entrance diploma, obtained by a follow up of degrees stringed together from general and vocational education.

University has the same standing in all compared societies or countries. And by the Bologna declaration – signed in 1999 – "academic degree standards and quality assurance standards throughout Europe for each faculty and its development" were harmonised (Wikipedia, 2006). Therefore, in all our cases, university offers the probable chance to obtain workplaces with the highest occupational prestige.

The rank order for vocational education is given by the major groups, used in the International Standard Classification of Occupations (ISCO-88). The conceptual frameworks of these major groups are skills and the kind of work performed. Skill levels are an estimated order to sort professional classifications and are "defined as the ability to carry out the tasks and duties of a given job" (International Labour Organisation, 1990: 2). The occupations are classified by skill levels into the "major groups" of ISCO-88. The

"major group" 2 professions are those where an academic qualification is obligatory. The "major group" 3 professions are those of technicians, the "major group" 4 and 5 professions are those of clerks (4) and service workers or salespersons (5), the "major group" 7 professions contain craft and trade workers, the "major group" 8 professions contain plant and machine operators. The occupations sorted in major group 9 are those where no formal qualification is necessary. In this category the low and unskilled labour is listed. Also this dimension of the HZ/W matrix is not built on certificates, but the matrix combines educational attainments to an individual skill level, based on their degree or equivalence. During a social survey interview, we cannot measure skills by tests of competence or occupational capacities. Therefore, we have to interrogate the highest degree of a respondent and combine this to an individual skill level.

The major weight of our matrix is not given by certificates. In the matrix only positions reached on the labour market are the decisive factor. For comparative purposes the matrix offers three anchor points common in each country, the sanctioned end of basic formation and training, the entrance to universities, and the diploma qualifying for research positions.

The individual qualification level of a person is identified by a weighted numeric value between 1 and 10. Value 1 means that only unskilled positions can be captured in the employment. Code 10 reports that a person has finished university and has a realistic chance to fill in upper work positions with high occupational prestige. "0" indicates that these combinations of general by vocational education are not realistic in social life; the empty cells at tables 12 to 15 give the information that these combinations are not possible in the observed system of education.

Table 12: Hoffmeyer-Zlotnik/Warner matrix of education – for Germany

	general education				
vocational education	non	basic degree	second degree	third degree	university-entrance diploma
non	1	2	3	6	7
dual system	4	4	5	5	5
vocational school	4	4	5	5	5
vocational college	0	5	5	8	8
college of higher education	0	0	9	9	9
university	0	0	0	10	10

Table 13: Hoffmeyer-Zlotnik/Warner matrix of education – for Luxembourg

vocational education	general education			
	non	basic degree	second degree	university-entrance diploma
non	1	2	3	7
dual system	4	4	5	5
vocational school	4	4	5	5
vocational college	0	5	5	8
college of higher education	0	0	9	9
university	0	0	0	10

Table 14: Hoffmeyer-Zlotnik/Warner matrix of education – for Denmark

vocational education	general education			
	non	basic degree	second degree	university-entrance diploma
non	1	3	6	7
dual system	4	5	5	5
vocational school	4	5	5	5
vocational college	0	5	8	8
college of higher education	0	9	9	9
university	0	0	10	10

Table 15: Hoffmeyer-Zlotnik/Warner matrix of education – for France

vocational education	general education		
	non	basic degree	university-entrance diploma
non	1	3	7
dual system	4	5	5
vocational school	4	5	5
vocational college	0	5	8
college of higher education	0	9	9
university	0	0	10

Here the HZ/W-matrix of education with 10 categories is demonstrated. If a graduation of university education is necessary, the categorical system can be fine-tuned by ap-

pending a second grade of university. Our basic definition for the matrix of education is the usable quality rating of a combination from general and vocational education for the labour market. Once again, occupational prestige is the important factor and necessity for the adjustment of our matrix.

Tables 12 to 15 show the matrices for Germany, Luxembourg, Denmark and France. In each of the four countries the columns are oriented on the possibilities to leave the general educational system. The range lies between the two anchor points: "basic" and "university entrance diploma", the grades are given by "classes". In Germany there are four official "gates" to leave school with a socially recognized diploma. In Luxembourg and Denmark there are only three and in France there are two official "outlets" to leave school with a formal diploma. In Germany, for three of the different diplomas particular types of school are institutionalized in parallel. In the other three countries the school types are organized in sequence following each other. Having finished learning, pupils can leave school system after ending one type or they can start taking classes in the hierarchically following institution.

The numbers of degrees from the system of general education is defined by the official "gates" for leaving the educational system. The position of the columns, especial if one or two columns are not occupied, is given by the numbers of classes a pupil has to complete before reaching the ending "gate". In Luxembourg as well as in Germany, basic degree comes early: normally at the end of class 9. In Denmark and France, it comes later: normally at the end of class 10; therefore the earlier position here has empty cells. Compared with Germany, in Luxembourg, like in France, a third degree is missing. In France only "basic degree" and "university entrance diploma" are possible "doors" to leave general school and the French basic corresponds to the German and Luxembourg second degree.

Missing national "gates" for leaving general school lead to missing codes on our 10 categories scale. But the not existing codes emphasize the singularity and individuality of the national education scheme. Some school systems (e.g. the German structure) offer a great number of combinations with different prestige to gain; some national arrangements offer fewer patterns in combining general and vocational education. Missing values like the value 2 in Denmark and France and the value 6 in Luxembourg and France only demonstrate that specific diplomas in specific countries are not possible. But in the combination of general and vocational education all combined codes (of certificates and all possible equivalences) are available in each of the countries as representatives of the four European educational systems. Therefore, the matrix can be used in each of the European countries to measure the educational systems in relation to the theoretical probability to achieve a position on the labour market and to gain a position in the social structure of a society.

6.5.2 The validity of the Hoffmeyer-Zlotnik/Warner matrix of education

Our intention is to measure education as an indicator of the individual's chances on the labour market. Highly qualified persons reach positions in the workforce with high social prestige and vice versa. The higher the correlation between the education measurements

and the SIOPS, measuring social prestige, are, the better is the measurement quality of the education variable. Be aware the in the data we are using, SIOPS is combined with the actual job position of the respondents at the time of the interview. During life long work and job activities, a person can have upward and downward experiences in job prestige. In an ideal case, SIOPS should be linked to the first position at the labour market career.

In Germany and Luxembourg, our matrix of educations is stronger correlated with the prestige compared to the alternative measures.

The very low correlation between education and household income in Luxembourg only demonstrates that in Luxembourg earned income is only one component of the household income. In Luxembourg, wages and salaries are household income components with less relevance for the financial situation of the household than in other countries.

In Denmark, all three measures of education show the same correlation with social prestige. Using the two survey questions on general and vocational grades and constructing the proposed matrix in Denmark, we assume that the interaction between the individual labour market chances and the gained social prestige may increase and the correlation becomes stronger.

In the case of France, were the SIOPS is not available, among all education measures our matrix shows the highest correlation with the monetary categories of the total net household income.

Since in all countries we verify the strong correlation between the matrix of educations and the social prestige position, we argue that our measurement is valid across the countries and can be used for comparative analyses as a socio demographic background variable. Our matrix is useful to predict the human capital a social actor can change into occupational prestige, social reputation and economic recourses valid to obtain a particular opposition in social stratification.

Table 16 presents the very high correlation of the Hoffmeyer-Zlotnik/Warner matrix with ISCED 1997 measuring the diplomas and school leaving certificates. This confirms in each country the linkage between the formal diplomas their equivalences and the entry into employment quantified by our matrix.

Table 16: Validity of Hoffmeyer-Zlotnik/Warner matrix of education: Correlations for the 25 to 64 years old population

	Germany			
	HZ/W	years	ISCED97 by HZ/W	SIOPS
Years of education	.77			
ISCED97 by HZ/W	.83	.70		
SIOPS*)	.64	.54	.54	
Household income	.35	.35	.35	.33
	Luxembourg			
	HZ/W	years	ISCED97 by HZ/W	SIOPS
Years of education	.77			
ISCED97 by HZ/W	.94	.78		
SIOPS*)	.61	.56	.58	
Household income	.08	.10	.11	.10
	Denmark			
	HZ/W	years	ISCED97 by HZ/W	SIOPS
Years of education	.75			
ISCED97 by HZ/W	.96	.76		
SIOPS*)	.50	.49	.51	
Household income	.12	.14	.13	.13
	France			
	HZ/W	years	ISCED97 by HZ/W	SIOPS
Years of education	.75			
ISCED97 by HZ/W	.95	.73		
SIOPS*)1)	na	na	na	
Household income	.39	.35	.36	na

*) SIOPS= Standard International Occupational Prestige Scale by D.J. Treiman

1) SIOPS can not be calculated for France because occupations in France are not classified by ISCO-88

Source: ESS, round 1, computation by the authors.

6.6 Conclusion

Does cross national, cross cultural comparative social research need a new measurement of highest level of education? Looking at the usually applied instruments we found:

"Years of schooling" is an adequate measure for survey researchers interested in "grades", under the condition that both – interviewer and interviewee – have the concept of "grades" in mind during the interview. Therefore, in comparative surveys the question wording must be highly standardised and the translation into national languages and the implementation in each fieldwork instrument must be carefully monitored to assure that

in all observed countries the same fact is measured. But grades can change their value over time and across countries.

ISCED 1997 is in most modern and industrialized countries a useful scheme to classify school leaving certificates for comparative description. In countries with complex educational systems, like Germany, the ISCED 1997 categories cover hardly the social situation of the population entering the labour market. Another disadvantage of ISCED 1997 is the risk of misclassification, how national diplomas are sorted into the ISCED 1997 categories. Even when using the "official" guidelines and mappings of national certificates to ISCED 1997 provided by various national and international working groups, dubious classifications appear. Asking the respondent during a social survey interview to classify his or her highest level of education him- or herself into the ISCED classification increases the interview burden.

The Hoffmeyer-Zlotnik/Warner matrix of education requires two survey questions. The first question pertains to the highest general education level obtained by the respondents. The second survey question reproduces the highest degree of vocational education achieved at the end of the respondent's initial schooling and training before entering the labour market the first time for a permanent job. The question wording, the list of answer categories, the layout of the questionnaire including the instructions to the interviewer and the guidelines to the target person of the survey have to respect the various and multifaceted institutional settings of each observed educational system. For each country and every cultural context, the complexity of the school systems, their degree of differentiation and their structural organization, and their vocational training facilities with their own potential to obtain positions on the labour market have to be reflected during the construction of the questionnaire.

In addition to these more or less stable characteristics of the education questions, the interview in social surveys deal with randomly selected sample persons eligible for the interviews belonging to different cohorts leaving the educational systems at different times. This brings more or less dynamic elements into the question design because institutions change over time and in the case of schools and vocational training institutes also the certificates and their potential values change from generation to generation. Therefore the list of answer categories proposed to the survey respondents must display not only the actual degrees but also respondents of past institutional arrangements of learning have to find the adequate denotations in the response categories mapping their highest level of obtained education.

In this article we emonstrated the need to survey general education followed by a question on vocational education. The cross-tabulation of "general", rank ordered by grades, and "vocational", sorted by skill levels, establishes a matrix of educational codes. This way of collecting the information decreases the risk of misclassification into comparative codes on the level of education by the interviewer and/or the data input process, as long as the researcher is guided by the answers given to both questions.

Table 16 shows high correlations between the proposed matrix and the ISCED 1997 classification over all countries. Even for Germany we observe this strong link. This observation confirms the easy use and the low risk of misclassification of our matrix.

A strong relationship between the Hoffmeyer-Zlotnik/Warner matrix of education and "years of schooling" is present in all countries. This linkage between the matrix and "years of schooling" exists also in countries where "grades" are surveyed; and the relation is higher than the connection between the matrix and ISCED 1997.

In Luxembourg and Denmark, total household net income is independent from all used education scales and from occupational prestige measured by SIOPS. A weak relationship between these variables is found in Germany and France.

The new Hoffmeyer-Zlotnik/Warner matrix of education suggests novel opportunities in cross national, cross cultural comparative social survey research. Hopefully, this new measurement of highest level of education will contribute to increase the quality of the measure, its accuracy, and its validity across countries, and its reliability in comparative analyses. In the end, data on educational attainment measured by this matrix can be used as standardised indictors for human capital, can easily interpreted across countries and within countries where the school institutions and the organization of education have changed over time.

Zbigniew Sawiński

7 Pursuit of Validity in Comparing Education Across Countries: Insights from Polish Experiences

> *Every comparison of background variables across nations or cultures has to consider the nation or culture specific concepts, the structure based on these concepts and the national instruments developed to capture these structures.*
>
> Jürgen H. P. Hoffmeyer-Zlotnik and Christof Wolf (2003a: 395)

In comparative research the ISCED classification is used as a tool for harmonising education. On the one hand, this classification aims to provide comparability of educational levels between countries, whereas on the other hand it serves to identify the role education plays in various societies. In this section I will try to demonstrate that accomplishing both of these aims with the use of the same classification is limited, if it is at all feasible. A classification which successfully identifies similarities between countries cannot simultaneously reflect differences between them. The analysis is illustrated with the data on Poland from the European Social Survey. Those data provide strong arguments that the ISCED classification poorly covers those elements of the educational system in Poland which determine the role of education in society. One of the reasons for this situation is that a significant part of respondents obtained their education during communism in Poland, when the educational system was subordinate to distinct economic and political goals. As a solution, I propose a national educational classification, arguing that its validity is significantly higher than that of ISCED in regard to the data of the European Social Survey. Moreover, this leads to a more general conclusion that national educational classifications may serve as useful tools for the growing number of comparative research data users. It could help them determine the actual role of education in particular countries, simultaneously facilitating the interpretation of mechanisms through which education shapes values, attitudes and opinions, and reflects the position of individuals in stratification systems. Therefore, I postulate to introduce national classifications as one of the standards of harmonising education in comparative research.

7.1 Problem

The necessity to compare educational resources in various countries arose from a belief that education determines the pace of economic and social development (Shultz, 1961: 1 ff.; Becker, 1964). An accurate estimation of educational resources became equally important as determining the population size or the gross domestic product. In response, work began in the 1970s on the International Standard Classification of Education (UNE-

SCO, 2003). The aim of this classification was to provide standardised data on education, which would allow for a comparison of varied educational systems. From the moment it was introduced, the ISCED classification is constantly being expanded and improved (Schneider & Kogan, 2008: 13 ff.).

Not only has the ISCED classification been applied in international statistics, but it has also been used in comparative research, even though the logic of these studies differs from the objectives pursued by national statistical offices. In addition to demographic characteristics such as age, sex or income, comparative research also looks into such concepts as values, attitudes or opinions. One of the aims is to determine how they are affected by social standing. Education is viewed as one of the most important factors in this context.

In comparative research, conclusions are drawn by identifying similarities and differences between countries. If the same phenomenon occurs in every country, it is concluded to be universal. However, if it occurs only in some countries, features which distinguish those countries from others are sought (Przeworski & Teune, 1970). Differences in validity of educational measurements can determine that the role of education becomes apparent only in certain countries, while in others remains undisclosed. If researchers are not aware that they are dealing with a methodological artifact, they will try to deduce what similarities and differences in value systems, economies, political systems, and so on, have produced this result. This is one of the treacherous pitfalls in international comparisons. Therefore, it is of greatest importance that all countries submit data of highest validity.

Education is extremely difficult to harmonise, as it is a product of educational systems which often differ significantly in terms of tradition, structure or in the range of reforms. Furthermore, mechanisms which transfer education into social rewards such as income or prestige, assume diverse forms in different countries. This is not only a result of the diversification of educational systems, but also of the principles which govern the labour market. For example, in Germany employers value vocational education above general education, whereas the opposite is true in the USA (Barone & van de Werfhorst, 2011: 483 ff.). It is thus crucial to identify actual *functions* that school certificates and diplomas play in different countries. An assumption, that these functions are country-specific, became a basis of the harmonisation approach, which was named *functional harmonisation* (Hoffmeyer-Zlotnik & Wolf, 2003b: 389 ff.).

Harmonisation developed in international statistics differs in its assumptions. It is oriented towards achieving a uniform and consistent measure of education for a wide range of countries. This requires the education measurement to reach high validity across countries, also referred to as external validity. In contrast, functional harmonisation concentrates on internal validity, that is, within each country. Understanding their unique natures is a prerequisite for determining the level to which functions carried out by various social processes can be understood and explained. Unfortunately, simultaneously achieving both maximum internal and maximum external validity is impossible (Moffitt, 2003: 448 ff.), hence authors of each research project must decide which aim they wish to achieve first. Thus far, the supporters of the option offered by international

statistics prevailed, because they were provided with a complete, finished tool – the ISCED classification. The supporters of functional harmonisation have not developed a classification yet which could be regarded as a viable alternative to ISCED. Although the proposed solutions seemed to be promising (Brauns, Scherer & Steinmann, 2003: 221 ff.; Brynin, 2003: 327 ff.; Hoffmeyer-Zlotnik & Warner, 2007: 177 ff.; Schneider, 2010b: 343 ff.), they were not commonly approved.

As a result of the imbalance between statistical and functional harmonisation, the ISCED classification is routinely used in international comparative projects. However, the prevalence of such practices does not mean that they became a norm. For any classification to become a standard, the research community would have to ascertain that it does not limit the search for explanations of phenomena which are the subject of comparative research. This raises challenges which I will address in the section. Is the ISCED classification a tool that meets the requirements of comparative research? If so, in what direction should it be developed? If not, what other tools for education measurement can be offered?

Section 7.2 begins by indicating some limitations of the ISCED classification as a tool for measuring education in the national context. Next, a national classification of education which enables overcoming the limitations associated with low validity of ISCED within countries is considered. The analysis is limited to Polish data, so my conclusions are rather a voice in the discussion than a general recommendation. However, a more in-depth discussion of these issues is currently necessary. The number of users of comparative research data in recent years has increased greatly. All of them expect harmonised tools that will protect them from drawing conclusions based on artifacts.

7.2 Education in Poland in the light of the ISCED classification

The European Social Survey (ESS) stipulates that education would be classified according to ISCED. However, data collected during the first four rounds of the project revealed serious discrepancies in percentage shares of some educational levels between countries (Schneider, 2010a). It was suspected that this had resulted from creating survey questions that had to fit the target categories of the ISCED classification. Before the fifth round of the survey, carried out in 2010, participating countries were consulted on this matter. These consultations resulted in the conversion of ISCED into a meta-classification containing 27 detailed categories (ESS, 2012). The assumption was that it would enable to properly code the variety of schools in European countries, as well as to group the results into target categories compatible with ISCED, which was used in the first four rounds of the survey. Finally, it was decided to group the results into seven categories. This classification was named ES-ISCED (Table 1).

Table 1: The transition between the Polish questionnaire categories and the International Classification of Education ES-ISCED. European Social Survey 2010, Poland.

Polish questionnaire			*ES-ISCED Classification*			
					Poland	All countries
Code	Category in questionnaire	[%]	Code	Category	[%]	[%]
01	Elementary not completed	0.9	1	I. Less than lower secondary	3.6	12.0
02	Elementary, 6 grade	2.7				
03	Elementary, 7/8 grade	11.5	2	II. Lower secondary	40.4	18.5
04	Middle-school (Polish: *gimnazjum*)	7.3				
05	Basic vocational	21.6				
		1.3				
06	Secondary general w/o maturity diploma	1.5	3	IIIb. Lower tier upper secondary	9.9	16.4
08	Secondary vocational w/o maturity diploma	7.1				
07	Secondary general with maturity diploma	8.8	4	IIIa. Upper tier upper secondary	21.3	20.7
09	Secondary vocational with maturity diploma	12.5				
10	Post-secondary vocational	3.8	5	IV. Advanced voc. sub-degree	4.1	11.8
11	Vocational studies	0.4				
12	Tertiary, 1st cycle (BA level)	5.2	6	V1. Lower tertiary, BA level	5.2	9.1
13	Tertiary, 2nd cycle or single-tier (MA level)	15.0	7	V2. Higher tertiary, MA or above	15.4	11.3
14	Doctoral degree	0.4				
	Total	100.0		Total	100.0	99.8

The Polish questionnaire categories are available in the international data file as variable *edlvdpl*, and the categories of ES-ISCED as *eisced*. Both variables refer to respondents' education. Data presented in this table, as well as in the next tables, are weighted by *dweight*. Missing data was excluded from the analysis.

The classification schema seems to be well designed – if we examine the percentages calculated for all countries jointly. However, analyzing each country separately may leave one baffled. In Poland, as much as 40 per cent of the respondents were assigned to the "II. Lower secondary" level, constituting the highest percentage among the coun-

tries participating in the study[1]. This was caused by including three levels of education (primary, middle-school and basic vocational) to the same category, whereas in Poland they are treated as separate ones[2]. The percentage of people classified into the highest education category, "V2. Higher tertiary, MA or above" was also substantial, appearing to be the second highest one in Europe (the highest percentage of this group was in Russia). Such a strongly polarized distribution of education raises concerns, especially when one is familiar with the history and the current structure of the Polish educational system. Another troubling issue is whether such a concentration of education into a few categories is able to reflect its actual role in society.

The inadequacy of the ES-ISCED classification can also be noticed in its specific applications. A number of problems arise from the fact that only completed schools are included in the classification. This principle fails when the program of a given school permits different variants of graduation. In Poland, graduates of secondary schools can chose to end their education and receive a school completion certificate, or they may proceed by passing the "maturity examination" (*matura* in Polish), which allows them to further their education at university level. In the ISCED-97 classification, possessing a diploma required to start higher education is a prerequisite for being classified in the 3A category, which corresponds to higher secondary education. Accordingly, graduates of secondary schools who have not obtained a maturity diploma are classified as one level lower – in the same category as people who have not attended secondary school. Thus, if they completed general secondary school without a maturity diploma, they are classified into category 2, "lower secondary or second stage of basic", and if they finished a secondary vocational school, they are placed in category 3C, "programs at secondary level not designed to lead directly to tertiary level".

The criteria for classifying secondary school graduates adopted in ISCED-97 should be regarded as incompatible with the logic of the Polish educational system. Graduates who

1 Analyses presented in this chapter are based on data released in November 2011. They include 20 out of 28 countries.

2 For readers who are not familiar with the Polish educational system, a brief description may be helpful. From 1950 to 2000, the school system in Poland consisted of three levels: elementary, secondary, and tertiary. Elementary schools lasted 8 years (7 before 1967). The paths for further education were divided into: 2-year basic vocational schools (*zasadnicza zawodowa* in Polish), which were a dead end educational path, 4-year full-term general secondary schools (*liceum ogólnokształcące* in Polish), and 4- or 5-year secondary vocational schools (*technikum* or *liceum zawodowe* in Polish). Secondary school graduates, who received a maturity diploma, could continue their education in 4- to 6-year single-cycle universities or colleges that, in most cases, lead to an MA degree. Graduates without a maturity diploma could attend 2-year post-secondary vocational schools (*policealna* in Polish). An educational reform in the year 2000 introduced a 3-year intermediate level of schooling, which we call middle-schools (*gimnazjum* in Polish), located between previous elementary and secondary levels. The reform shortened the elementary school education to 6 years, and full-term secondary school education to 3 years. This way, the age of secondary school completion remained unchanged. According to the Bologna process, higher education programs were divided into two cycles (BA and MA), however this process has not been completed yet. For a more detailed description of the current structure and changes of the Polish educational system, see: Eurydice 2010; Heyns and Białecki, 1993; Mach and Kryszczuk, 2008; Sawiński, *forthcoming*.

have not passed the maturity exam may take it at a later time under the condition they complete the full, 4 or 5 year secondary school program and obtain a school-leaving certificate. Hence, their level of education should be treated as "closer" to the education level of secondary school graduates who passed the maturity exam than to the education level of those who did not attend secondary school at all.

Table 2: Average household income and occupational prestige scores for categories of secondary education with and without the maturity diploma. European Social Survey 2010, Poland.

(a) Total household income [in Polish Zloty]

				Differences	
ISCED-97	Category of education	N	Average	SG w/o mat. dipl.	SG with mat. dipl.
2	Elementary	167	1831	597*	880**
2	Secondary general w/o maturity diploma	20	2429		282
3A	Secondary general with maturity diploma	70	2711		
				SV w/o mat. dipl.	SV with mat. dipl.
3C	Basic vocational	295	2390	503**	781***
3C	Secondary vocational w/o maturity diploma	92	2893		278
3A	Secondary vocational with maturity diploma	145	3171		

(b) Occupational prestige [scale scores]

				Differences	
ISCED-97	Category of education	N	Average	SG w/o mat. dipl.	SG with mat. dipl.
2	Elementary	176	17.8	15.1**	21.4***
2	Secondary general w/o maturity diploma	23	32.8		6.3
3A	Secondary general with maturity diploma	76	39.1		
				SV w/o mat. dipl.	SV with mat. dipl.
3C	Basic vocational	365	23.6	13.5***	18.5***
3C	Secondary vocational w/o maturity diploma	111	37.1		5.0*
3A	Secondary vocational with maturity diploma	191	42.1		

Respondents still in the course of their education were excluded from both analyses. Prestige scores were calculated using *The Polish Occupational Prestige Scale* (Domański, Sawiński & Słomczyński, 2009) only for respondents who had a job at the time of the survey. Statistical significance of differences: *p>0.05, **p>0.01, ***p>0.001.

In Poland, graduates of secondary schools who have not obtained a maturity certificate are not a marginal group, especially in the case of secondary vocational schools. The European Social Survey revealed that this problem concerns almost every third graduate of schools of this level (Table 1). These people were satisfied with achieving a technician certificate, which is sufficient to work as a semi-professional. The maturity examination is only necessary in order to begin education at tertiary level. It may be assumed that only a few graduates of secondary vocational schools are interested in this option. Students who plan to achieve higher education usually go to general secondary schools, as they can prepare them better for the maturity exam and entering university.

The issue of classifying people who completed secondary school without obtaining a maturity diploma can be viewed from the perspective of social position derived from education. Table 2 shows average household incomes and average occupational prestige scores among secondary school students who graduated with and without a maturity diploma. Corresponding numbers were provided for the category of education which should, according to ISCED-97, apply to graduates without maturity diplomas. The presented data confirms the commonsensical conclusion that secondary school graduates who have not obtained the maturity diploma should be classed closer to those who have such diploma, rather than to the group to which the ISCED standards classify them. Thus, the ISCED classification leads to underestimating the actual benefits of completing secondary school without a maturity diploma.

7.3 The Polish Social Classification of Education

The indicated limitations of ISCED classification may be overcome by using a national classification, as it allows taking into account both the education system specificity and the manner in which the obtained education translates into a position in the stratification system. In this part I shall present such a classification for Poland. However, it should be stressed that this is not an "official" classification, applied in statistics or in research. It was created *ad hoc*, solely for the purposes of this section. Categories of education were distinguished accordingly to how researchers in Poland define them when they are not constrained by the requirements of international projects. Of great importance is that the classification contains exactly seven levels of education, just as the ES-ISCED classification, in order to eliminate this factor when comparing validity of both classifications.

I shall begin with two levels of education, which can be found in each Polish classification. The first one is elementary education, which prevailed in Poland up until the end of the 60s. Currently, people classified to this level are mostly elder persons, who received their education in the extent to which it was compulsory before the Second World War and in the postwar years. People who have not finished elementary school have also been placed in this category. The second distinguished level, basic vocational school, is the most common one in Poland (Table 1). However, in the ES-ISCED classification these two levels have not been distinguished separately and have been included in the ES-ISCED category "II. Lower-secondary".

The next category of this proposed classification corresponds to middle-school education (Polish: *gimnazjum*), a school type which was introduced in Poland after 2000. To this category I assigned respondents who were attending middle-schools at the time of the survey, covering almost all respondents from the 15-16 years cohort. According to ISCED-97, their educational level falls into the ISCED-1 category, due to the fact that they previously only completed a 6-year primary school. However, assigning students of middle-schools to the elementary education level seems inadequate. The chances of not graduating from middle-school are small (as it is an intermediate part of compulsory education), and it may be assumed that the majority of students will continue their education throughout secondary school, and moreover, a part of them will further their education at tertiary level. The reason for placing students of middle-schools in a separate category is that without additional data it is difficult to predict the level of education they will receive in the future. Thus, the "middle-school" level of education has a more temporary than target nature.

The next two categories of the classification correspond to education obtained in vocational secondary school and in general secondary school. Separating these two types of educational programs is crucial, as vocational secondary schools prepare students for entry onto the labour market, whereas general ones prepare students for entering universities. To both of these categories I have also classified respondents who were current students of the above mentioned schools and people who completed secondary school without obtaining a maturity diploma. Moreover, I assigned the "secondary vocational" level to those respondents who completed or attended post-secondary vocational schools (classified as level 4, "post-secondary, not tertiary", in ISCED-97). Such schools enable one to receive a technician certificate, equivalent to qualifications obtained in secondary vocational schools.

Finally, the last two categories correspond to the 1st and 2nd tertiary educational cycles as defined by the Bologna process, namely Bachelor's and Master's degrees. These categories also include students who are in the course of completing tertiary education. This differs from what is used with ES-ISCED – namely that completing education at a given level is required before being included in a relevant category

Table 3 presents the rules for transition between the international ES-ISCED classification and the classification created for Poland, which will be tagged as PLSocEd. Respondents are more evenly distributed among various categories in the latter (see: Tables 1 and 3). The biggest difference in classification principles concerns the "II. Lower secondary" category, which is the most numerous one in ES-ISCED, whereas in the PLSocEd classification people from this group were spread among five various categories. The second vital difference is that people classified in ES-ISCED to both levels of secondary education (IIIb and IIIa) were separated in PLSocEd according to school program into general and vocational education.

Table 3: Percentages of categories of the Polish Social Classification of Education (PLSocEd) in each category of the ES-ISCED classification. European Social Survey 2010, Poland.

	Polish Social Classification of Education (PLSocEd)							
ES-ISCED	1. Elementary	2. Basic vocational	3. Middle school	4. Secondary, vocational	5. Secondary general	6. Higher, 1st cycle (BA)	7. Higher, 2nd cycle (MA)	Total
I. Less than lower secondary	72.0		28.0					100.0
II. Lower secondary	27.7	53.2	4.5	4.8	9.8			100.0
IIIb. Lower tier upper secondary		13.5		70.1	14.2	2.3		100.0
IIIa. Upper tier upper secondary				53.1	24.6	22.3		100.0
IV. Advanced vocational, sub-degree				98.4		1.6		100.0
V1. Lower tertiary education, BA level						62.4	37.6	100.0
V2. Higher tertiary education, >= MA level							100.0	100.0
Total [per cent]	13.8	22.8	2.8	24.3	10.6	8.3	17.3	100.0

Table 4: Average age and percentage of respondents still enrolled in schools in categories of ESISCED and PLSocEd. European Social Survey 2010, Poland.

ES-ISCED	In school [per cent]	Average age [in years]
I. Less than lower secondary	28.0	61.2
II. Lower secondary	18.9	46.8
IIIb. Lower tier upper secondary	5.5	42.1
IIIa. Upper tier upper secondary	25.7	41.4
IV. Advanced vocational, sub-degree	5.8	47.2
V1. Lower tertiary education, BA level	37.6	35.7
V2. Higher tertiary education, >= MA level	6.8	41.4
Total	17.9	44.3
Eta-squared [per cent]	5.3	5.8

Table 4, continued from previous page

PLSocEd	In school [per cent]	Average age [in years]
Elementary	0.0	65.9
Basic vocational	3.3	47.0
Middle-school	69.1	20.2
Secondary, vocational	10.9	44.5
Secondary, general	41.8	35.3
Higher, 1st cycle (BA)	60.8	30.0
Higher, 2nd cycle (MA+)	17.4	39.5
Total	17.9	44.3
Eta-squared [per cent]	26.8	31.3

The Polish classification differs from the international one in terms of the percentages of respondents who were still in school during survey. This is illustrated by data presented in Table 4. In the Polish classification, differences among categories concerning the percentage of students arose as a result of determining the level of education according to the school they are currently attending, and not according to the last school they completed. This resulted in a higher percentage of students in middle-school category and in 1st level tertiary education, while the percentage of students in elementary and basic vocational categories decreased. Due to this, the first two categories are relatively young, as they are dominated by people who are still learning. The age of people in educational categories has great meaning when interpreting outcomes of education in social life. I shall return to this issue later in this chapter.

7.4 Blut ist dicker als Wasser[3]

In order to compare the validity of both educational classifications, the results from the European Social Survey of 2010 shall be used. All questions concerning values, attitudes and opinions that met two following criteria were selected from the questionnaire. The first criterion was that all respondents had to be asked the question (it was not a question that could be filtered out by one of the questions asked before). The second criterion was that the answers formed an ordinal scale (e.g. from "definitely yes" to "definitely no"). These criteria were met by 128 questions (Table 5).

Next, an analysis of variance for each question was conducted, that treated the PLSocEd and ES-ISCED classifications as explanatory variables and adopted numerical symbols of answers for scale values. The analysis was carried out in two steps. The first one served to determine whether the dependency between answers and educational classification is statistically significant (at the significance level p=0.01). If the dependency

3 A German proverb, parallel to the English one: "Blood is thicker than water".

from any of the classifications did not meet this condition, the question was eliminated from further analysis. In the second step, percentage ratios of explained variance (eta-squared) were calculated for both classifications, next their quotient was calculated by dividing eta-squared for PLSocEd by the value obtained for ES-ISCED, and finally the result was multiplied by 100. The received ratio will be called the index. Index values above 100 indicate that the PLSocEd classification explains answers to questions better than ES-ISCED.

Table 5: Validity measures for ES-ISCED and PLSocEd based on items selected from the European Social Survey 2010, Poland.

Questionnaire section	A	B	C	D	G	H	P	Total
Number of selected items	7	32	15	38	10	21	5	128
ES-ISCED: not significant	1	6	6	22	2	7	1	45
PLSocEd: not significant	1	6	3	14	0	4	1	29
Number of analyzed items	6	25	9	13	8	12	4	77
ES-ISCED: average eta-squared	5.6	3.1	3.0	2.9	3.5	2.8	2.8	3.2
PLSocEd: average eta-squared	9.0	4.5	5.8	3.2	5.6	6.4	5.4	5.2
Average Index	135	150	193	115	199	254	234	173

Sample size 1751, data weighted by *dweight*. The values of the *eta-squared* are displayed in percentages. An *Index* is the ratio of the eta-squared for PLSocEd divided by the corresponding eta-squared for ES-ISCED and multiplied by 100. Items are divided into sections according to the structure of the ESS questionnaire. In the ESS 2010, the sections contained the following modules: A – Media usage; B – Trust in institutions; Political, moral and social values; Social exclusion; C – Well-being, health and security; National, ethnic, religious identity; D – Trust in criminal justice; G – Work, family and well-being; H – Universal values; P – Social identity.

Table 5 presents results of the analyses. In 45 out of 128 questions the association between the answers and the ES-ISCED classification proved to be statistically insignificant, whereas in the PLSocEd classification the association was statistically insignificant only in 29 cases. This demonstrates that the Polish classification serves as an explanatory tool for values and opinions in a greater number of cases than the international one. The comparison of variance explained by each classification leads to more in-depth conclusions. The eta-squared values were calculated for 77 questions, that is for all for which associations were statistically significant. The average value of the index is 173, what means that by using PLSocEd instead of ES-ISCED we are able to explain 73 per cent more variance in answers. Thus, there is no doubt, at least in Poland, that the national classification is a more valid tool for identifying the strength with which education determines values and opinions.

The benefits associated with applying the Polish classification depend on the issues of the questions. Questions from section H, which concerned human values, also called universal ones (Schwartz & Bilsky, 1990: 878 ff.), gained the most from using the national

classification. In this case, 254 was the average value of the index. It was only slightly lower for section P, which contained 5 questions asked in a national option, concerning social identification. Section C and G obtained values close to 200. Section B included "standard" questions concerning political and social attitudes, which have been asked in international studies many times in the past (e.g. interest in politics, the position on the Left-Right scale, satisfaction with life, tolerance towards homosexuals). The average value of the index for this section was 150. This result also convinces towards using the national classification.

Section D, which included questions concerning trust in criminal justice had the lowest index value. Low values of the eta-squared suggest that opinions on these issues scarcely depend on education. Neither the national nor the international classification are useful in this situation.

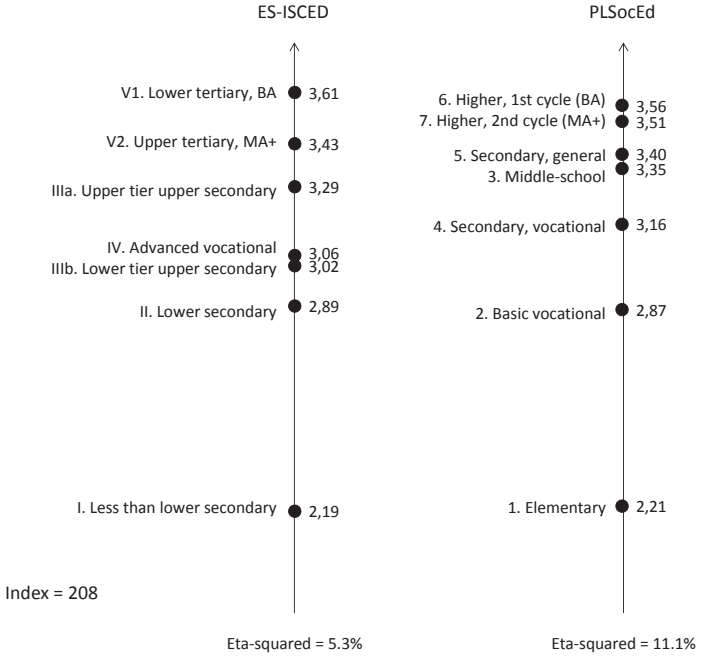
7.5 How education works?

The different explanatory value of the two classifications is best illustrated with an example. Figure 1 depicts the relationship between the level of education and the importance of success in life. The above statement comes from section H, in which questions concerning human values were asked. The results for both classifications confirm expectations on how education affects the value system. Average scores increase along with educational level, from lowest to highest. The specific position of middle-school education in the Polish classification is worth noting. The importance of success in life for people from this level is similar to the importance for those from the secondary school educational level. This confirms the previously adopted assumption that the classification category for students of middle-schools should be determined by the level of education they will achieve in the future, and not on the basis of a previously obtained certificate.

Despite a similar outline of the revealed hierarchy of educational levels, both classifications differ significantly in their explanatory value. In the case of the Polish classification, the ratio of explained variance (eta-squared) is double. This proves that categories of this classification are more internally homogeneous, namely they group people with similar value systems. Hence, this is the fundamental reason for which the national classification is a better explanatory tool for values, attitudes and opinions than the international one.

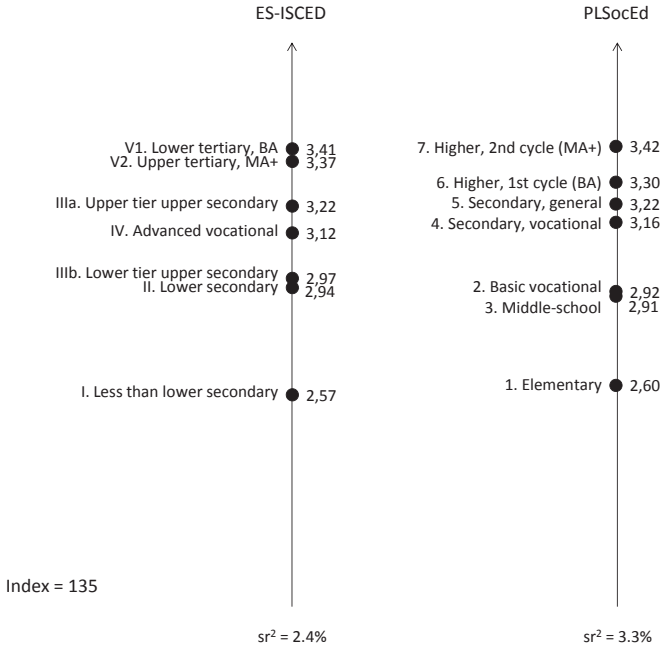
In discussing ways of creating the Polish classification, I pointed out that its categories varied more in terms of age than the categories of ES-ISCED. Therefore, it is worth looking closely what it would be if the educational categories of both classifications did not differ in terms of age. In order to separate the "pure" influence of education on success in life, I used the OLS regression model, first including the age, and then a set of dummy variables for education categories. The results are presented in Figure 2. After eliminating age, education still significantly differentiates opinions on success importance. In both classifications, average scores increase with education level. The only average where a decrease was observed was for the middle-school category. After allow-

ing for the fact that people in this category are younger on average, success importance became similar to that for persons with basic vocational education.



Statement HM: "Important to be successful and that people recognize achievements" (variable *ipsuces*). The answers and the scale values are: Very much like me (5), Like me (4), Somewhat like me (3), A little like me (2), Not like me (1), Not like me at all (0).

Figure 1: Mean scores for the "Importance of Success in Life" in categories of ES-ISCED and PLSocEd. European Social Survey 2010, Poland.



The question and scale values for responses are presented below Figure 1. Educational categories were included in the regression equation as dummy variables with the lowest category omitted. The semi-partials sr2 (Cohen et al., 2003) were calculated as the differences between R2's for models with both age and education included and a model containing age only.

Figure 2: The OLS regression unstandardised coefficients *B* for the "Importance of Success in Life" in categories of ES-ISCED and PLSocEd after excluding age. European Social Survey 2010, Poland.

The sr^2 coefficients (semi-partials; Cohen *et al.*, 2003) shown at the bottom of Figure 2 suggest that, after excluding age, the explanatory value of both classifications decreased. This decrease was larger in the case of the Polish classification, leading to a decrease in index value. Nevertheless, even after eliminating age, the validity of the Polish classification is higher. Its education categories work better in identifying values of respondents in European Social Survey.

7.6 Schools from different eras

The educational level can be seen through the prism of skills acquired during the course of education and values shaped by school. In this sense education is used, in research, to explain attitudes and opinions. However, the last of the considered examples raises doubts to what is the actual factor explaining answers to the ESS questions. Is it an education that is the result of a school career, or maybe a more fundamental personal characteristic, such as age? As it was already indicated, educational categories differ in

average age, and these differences are especially visible in the case of the national classification (Table 4).

However, an educational classification cannot be created without its categories to differ in average age. The most fundamental reason is the expansion of education. Longer and longer school careers cause that the highest levels of education are being occupied mainly by young people, while the lowest levels are gradually becoming filled with older people. In Poland, even up to the 1980s, students in basic vocational schools constituted up to 60 per cent of the youth at the lower secondary level (Sawiński, *forthcoming*). The reform of the educational system in the 1990s helped to reduce this ratio to 20 per cent. In consequence, basic vocational education is currently more common among older people than among the young.

What is more, school programs along with educational goals and methods of teaching change. Grandparents of current students attended elite secondary schools, in which emphasis was put on good manners and classical education. Contemporary secondary schools lost their elitist nature due to the excessive number of students at this level of education. Teaching focuses on developing operational skills, shows how to select most valuable information, encourages openness and tolerance. Computers revolutionized teaching methods and the introduction of standardised competency tests replaced a carefree youth with a participation in the rat race. Doubts arise whether seeking for correspondence between today's schools and those from 40-50 years ago makes any sense.

Educational classifications, such as ISCED, are based on the current structure of the educational system. The educational level of people who graduated many years ago from schools which do not all have contemporary equivalents needs to be adjusted to this structure. This strategy leads to the impoverishment of information on education, when it is understood as skills or values shaped by school. Thus, the validity of educational measurement decreases, and, in result, the role of education in explaining values, attitudes or opinions is weakened.

Poland is an example of a country that has undergone major educational reforms in the recent years. As it was mentioned before, in the last decade of the 20th century basic vocational schools were reduced to one third. For 40 years of communism they have played the role of a provider of semi-skilled labour force for industry and agriculture sectors which were technically backward. Middle-schools have been introduced into their place. They prolonged the general education, letting graduates prepare for a more oriented education in secondary and higher schools as well as creating foundations for lifelong learning. Placing basic vocational schools and middle-schools in one educational category, as is the case in ES-ISCED, seems to be a questionable decision. Especially that the origins of these schools lie within different social, economic and political orders.

The Polish example demonstrates that by creating a classification according to the logic of the changes in the educational system we must accept that the categories will differ in the age of the classified people. However, this does not have to signify that we obtain spurious associations when studying the influence of education on values, attitudes and opinions. Differences between age cohorts may stem from the fact that

they completed schools in different educational systems, oriented toward various goals, which cannot be directly linked. When separating the basic vocational educational level, researchers in Poland mainly take into account that this category was characteristic of a system that does not exist anymore. Nevertheless, comparing basic vocational schools from the communist era with the contemporary school system is worthwhile, even if only to see whether the old system really produced a dead end in education.

7.7 Harmonisation without a common classification

The assumption made, both in international statistics and in comparative studies, is that education can be effectively measured by creating a common classification and then establishing principles for "assigning" various institutions from different educational systems into that classification. Polish experiences suggest, however, that at least in some countries this cannot be done in a satisfactory manner. The question arises as to whether there is an alternative. Is harmonisation possible without a common classification?

The answer seems to be affirmative in situations where the goal is to select variables which have the highest impact on values, attitudes, and opinions, as well as to find major attributes of social standing. Such an analysis is usually a preliminary step in making comparisons between countries. It consists of narrowing down the range of potential factors to those most strongly connected with the phenomena we wish to explain. Whether this selection was done correctly depends on how well those factors were measured. Low validity reduces the real meaning of variables. Some of the important factors may thus be wrongly ignored.

Typically, data users in comparative research do not have the same amount of knowledge about all countries. They know a lot about the educational system in their own country, a little less about education in a few other countries, but they probably have no idea about educational systems in most of the countries covered by the analysis. In consequence, they are unable to estimate the validity of the provided data on education. They have no way of separating situations where education does not affect the issues being studied from situations where education does have an influence, but this influence is not visible due to the low validity of measures used. The only way to overcome this difficulty is to provide data which can be trustworthy for those who do not have specialized knowledge about educational systems. National classifications of education are a solution. They are designed by researchers from countries participating in a project who excellently know how the educational system in their country is organized and how education works. This would guarantee high measurement quality and include criteria that determine the actual role of education in explaining issues interesting to potential study users.

Classifications constructed in accordance with these guidelines will probably vary in their content. It may be that each of the countries will describe the lowest level of education differently. Perhaps not all countries will want to separate two tertiary education cycles. It does not seem likely, however, that a lack of common categories would

pose a barrier. Functional comparability is provided at the level of the whole construct, which ensures single categories to be valid inside each country. They can thus be used to explain phenomena which vary from country to country, such as different benefits of general and vocational education. If there was a need to compare the same educational levels across countries, the ISCED framework could still be used.

In constructing national classifications, it is worthwhile to include two issues which have thus not been fully addressed in proposals for harmonising education (Schneider, 2008: 311 ff.). The first is the method for classifying students who are still receiving their education. As demonstrated using Poland as an example, it is more justified to use their current as opposed to completed school for categorization purposes. Using this principle requires asking an extra question, as such information is not typically gathered. It may also be productive to ask students what schools they intend to attend in the future. This requires an assumption that these intentions will indeed be fulfilled.

The second issue pertains to classifying people who have left schools before completing the full program. This especially includes the situation of some university students who have attended all the requisite courses and received certificates of completion, but have not submitted their thesis and did not receive a final diploma/degree. In Poland, many universities provide such certificates of partial completion (*absolutorium* in Polish), and it can be surmised that some employers are ready to accept this kind of certificate as equivalent to higher education, in spite of the fact that according to official regulations this is not true. An analysis of secondary school graduates without a maturity diploma suggests that a lack of a final diploma does not significantly decrease the benefits of attending secondary school. The guidelines for classifying the educational level of persons who have left schools early should take the number of years completed into account. Such data has not been gathered to date, so the problem awaits a solution.

Before closing, one more issue requires discussion. Some cross-country projects, like the European Social Survey, support a practice of disseminating data on education collected through questions asked in the fieldwork. In the case of Poland, answers to this question are presented in Table 1. Making this tool available resulted from the apparent belief that the ES-ISCED framework may be insufficient for some purposes. In this way, data users have the door open to develop their own classifications of education that would have greater validity than the classification proposed as a standard.

This is, however, a partial solution that could not be seen as a substitute for a national classification. Categories from survey questions are not suited to be used directly for data analysis. They were designed to increase the chance of receiving reliable information about a respondent's education, as well as that of his/her spouse and parents. Response options include uncommon school certificates, schools which only existed in the past, or which are available in only some parts of the country. These solutions, while useful in fieldwork, make analysis more complicated. In Poland, one of the answers to the question concerning education refereed to vocational studies (in Polish: *studium zawodowe*; ISCED level 5B). This type of school was never common, existed only in some time periods and prepared for few occupational roles (for example, a preschool teacher). In most research conducted in Poland, including the census, these schools are not listed as

a separate category in order to keep answer options clear. These schools do, however, figure in the description prepared by Eurydice (2010), and according to ESS guidelines were provided as one of the possible answer options. In 2010, it was selected by 6 persons only, which constituted 0.4 percent of the sample. A user of ESS data was left with the choice of determining a more frequent category to include these schools into. Such a decision is not easy without knowledge of the Polish educational system.

Another limitation of answer sets taken from education questions is that they contain unequal numbers of categories. Some analytical methods, such as analysis of variance, are vulnerable to this. It should be expected that in countries where education categories are distinguished out in greater detail, their explanatory possibilities are higher. This makes it more difficult to accurately estimate the actual role of education.

These arguments encourage to accept the view that classifications from questionnaires provided together with ESS data cannot serve as substitutes of national classifications. Transforming them into accurate tools is a task beyond the capabilities of the average data user.

7.8 Conclusions

The data of the fifth round of the European Social Survey confirmed the limitations of the ISCED classification as tool for operationalizing education in comparative research. These limitations stem from the fact that ISCED was created for the purpose of international statistics in order to compare educational systems in various countries, whereas comparative research is focused on the role of education in social life. This requires taking into account a specific way in which education operates in each country. The ISCED classification, similarly to any other tool, cannot provide data which would have the required validity for both country-specific and inter-country analyses.

In this chapter I proposed to supplement a standard set of educational measurement tools with national classifications, which are created in order to increase validity at the expense of abandoning the idea of a common set of categories. This would enable an inclusion of the differences in the educational systems as well as specific mechanisms through which education shapes values and determines the social roles of individuals. Achieving high intra-country validity would enable to formulate valuable conclusions on the role of education separately for each country. Such conclusions, instead of raw data, can be compiled together in international comparisons.

The benefits of a national classification were illustrated with the data for Poland obtained in the fifth round of the European Social Survey. 128 questions were selected from the questionnaire, all concerning values and opinions. Using the national educational classification enabled to explain 73 per cent more variance of respondents' answers as compared to the ES-ISCED classification which is recommended in the ESS project. The advantage of the national classification comes from separating educational levels that prevailed in the school system before the collapse of communism in 1989. The ISCED classification based on the current educational system, which has been majorly

reformed during the two decades of economic and political transformations, does not give that option.

7.9 Acknowledgements

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8 Measuring the Labour Status in Official Statistics: The Labour Force Concept of the International Labour Organisation and its Implementation in the Labour Force Survey

The labour status is one of the crucial factors of everyday life. It does not only determine the economic situation, but is also one of the most important sources of the self-determination of people. Consequently, it is not astonishing that the labour status ranks among the most widely used socio-demographic variables. Together with the status in employment and the occupation, it also plays a key role for the operationalisation of the socio-economic status (Hoffmeyer-Zlotnik & Warner, 2011: 9 ff.).

Still and particularly in the context of Labour Force Surveys, the labour status is more than a background variable. It is at the core of numerous social as well as economic indicators like the employment rate and the unemployment rate, which are prominent in the Europe 2020 strategy of the European Union, the scoreboard for the detection of macroeconomic imbalances in the EU, and many other indicator systems. Consequently, providing an accurate estimation of the population broken down by labour status is one of the major objectives of the European Union Labour Force Survey (LFS), one of the largest cross-national population surveys in the world.

Despite its ubiquity and overwhelming importance, a harmonised measurement of the labour status is not easily achieved. Employment can appear in various and quite heterogeneous types. It is largely determined by the national institutional context as well as cultural connotations, which further complicates an international harmonisation.

In the European Statistical System (ESS), the measurement of the labour status is conceptually based on the resolutions and guidelines in the framework of the International Labour Organisation (ILO), commonly referred to as the labour force concept of the ILO or simply ILO concept.[1] The labour force concept is not only the conceptual backbone of the LFS, but also widely used for population censuses as well as in the context of the National Accounts.

Given the objective of the labour force concept to provide a globally applicable definition, the resolutions and guidelines of the ILO necessarily leave room for adaptations to the specific national contexts. Hence, for a harmonised implementation in a survey like the LFS, further specifications of the concept become necessary in order to achieve a joint operationalisation. In the ESS, usually ex-ante output harmonisation is the predominant approach towards harmonisation, i.e. the target variables are strictly harmo-

1 A further concept increasingly used is the self-perceived activity status, or main status. As the main status is much easier implemented in a survey questionnaire, it is also this concept, and not the labour force concept, that is included in the "core social variables" to be implemented in all population surveys of the European Statistical System (see Eurostat, 2007: 29).

nised while the operationalisation can be adapted to the specific national context. In the case of the LFS (as in other social surveys), this strategy is nevertheless complemented by a growing number of elements of input harmonisation.

This paper first introduces the main elements of the labour force concept as defined by the ILO. The first section (8.1) also outlines the objectives of the concept and its limitations for socio-economic analysis. In section 8.2, we describe the implementation of the labour force concept in the LFS, for which a set of legal regulations as well as recommendations have been agreed by the EU member states. A third section (8.3) comments on some outstanding problems and ongoing developments concerning the labour force concept and its implementation both in the ILO as in the EU context.

8.1 The Labour Force Concept of the International Labour Organisation (ILO)

The origin of the labour force concept dates back to the period directly following the creation of the ILO in the year 1919: The development of the concept first becomes visible at the second International Conference of Labour Statisticians (ICLS), the main forum for the agreement of statistical concepts in the ILO framework, held in the year 1925. Today, the labour force concept still follows the basic lines taken when it was first adopted as an international standard at the Sixth ICLS in 1947 (ILO, 1948; see also Hussmanns, Mehran & Verma, 1992). The last major changes have been adopted by the 13th ICLS in 1982, complemented by additional guidelines endorsed at the 16th ICLS in 1998 (ILO, 1982; 1998a).

The labour force concept exclusively and exhaustively divides the population into two broad classes: Those who are considered "economically active" (or in the labour force) and those who are considered "economically inactive" (or outside the labour force). The persons in the labour force are further subdivided in employed persons and unemployed persons (see figure 1).

The basis for the distinction between the economically active and inactive parts of the population is the notion of productive activities: The economically active population comprises all persons who contribute or are available to contribute, as employed or as unemployed, to the production of goods and services. Productive activities are defined according to the production boundary of the System of National Accounts (SNA). According to the SNA 2008, the relevant production of goods and services includes

- all production of *goods* (market, non-market,[2] and for own consumption),
- the production of market and non-market *services*, and
- the production for own final consumption of *household services by employing paid domestic staff*.

Consequently, economic activities to be covered include the production of goods and services that are supplied to units other than their producer (market and non-market

2 Non-market production comprises the goods and services produced by government units and non-profit institutions.

production). The production of goods for own final consumption is to be included if the amount of a good produced for own final use is quantitatively important in relation to the total supply of that good in a country. With the exception of domestic and personal services produced by employing paid domestic staff and of housing services produced by owner-occupiers, the boundary excludes services produced for own final consumption (see Hussmanns, 2007).

It is important to note that the close connection of the labour force concept with the SNA is an important feature as it ensures that employment statistics are consistent with the National Accounts' aggregates. It also has further implications for the definition of employment and unemployment: Regarding employment, an *extensive definition* is required to exhaustively capture the total input to the production. Accordingly, unemployment and inactivity need to be defined restrictively, i.e. can apply only in cases with a complete absence of input to the production.

<table>
<tr><th>Employed</th><th>Unemployed</th><th></th></tr>
<tr><td>▪ >= 15 years old and either
▪ at work for at least one hour (as employee or self-employed) or
▪ with a job but not at work (formal job attachment)
▪ with an enterprise but not at work</td><td>▪ 15 – 74 years old and
▪ without work (or less than one hour) and
▪ actively seeking job in the last four weeks and
▪ currently available for work (2 weeks)</td><td>▪ not employed and
▪ not unemployed</td></tr>
<tr><td colspan="2">Economically active population</td><td>Population economically not active</td></tr>
</table>

Figure 1: The labour force concept of the ILO (as operationalised in the EU-LFS)

8.1.1 Defining employment

The extensive definition of employment translates into the inclusion of all persons who either, during the reference period (usually a week) worked for at least one hour ("one hour criterion"). Employment comprises all work for wage, salary, profit or family gain, in cash or in kind. Choosing one hour as boundary is a pragmatic operationalisation of the objective to include every input.[3]

3 This definition is actually not strictly consistent with the SNA production boundary. People producing goods for own consumption (subsistence work) as well as voluntary workers in market or non-market enterprises are considered economically active according to the SNA production boundary, but not identified by the definition of employment as work for pay, profit, or family gain. In this respect the interpretation that "the notion of 'work for pay, profit or

The labour force concept furthermore classifies as employed people with a job from which they have been temporarily absent during the reference period provided that they had a "formal job attachment". According to the guidelines endorsed by the 16th ICLS, the formal job attachment is defined by three criteria: the assurance of return to work (in some case an agreed date of return to work), the continued receipt of wage or salary and the duration of the absence (to be specified "according to national circumstances"). As shown in table 2, these criteria are applied differently for specific sub-groups. Generally, persons have to dispose of an assurance of return to work in order to be treated as employed. In addition, they have to continuously receive significant parts of their salary and/or their absence must not last longer than a specified period.

Table 1: Groups of persons with a job, but not at work considered employed according to the guidelines of the ILO (1998a)

	Assurance of return to work	Continued receipt of a significant part of the salary	Duration of the leave does not exceed a time-limit
Employees on maternity leave	×	×	
	×		×*
Employees on unpaid leave initiated by the employer	×**		×
Employees on other types of extended leave	×	×	
	×		×
Seasonal workers not at work during the off-season	×	×	×***

*) Also to be considered as being employed during the compulsory period of the leave stipulated by national legislation to ensure that mothers before and after childbirth have sufficient rest.

**) Agreed date for return to work.

***) Work has to be resumed at the beginning of the next season.

Self-employed are categorised in analogy with employees: They are considered employed if they worked during the reference period for profit or family gain, in cash or in kind. Self-employed are equally considered employed if they were temporarily not at work during the reference week, but are "with an enterprise, which may be a business enterprise, a farm or a service undertaking" (ILO, 1982: para 9, 1, b2). Contributing family workers, though participating in the activities of a household enterprise, are not considered to have an enterprise of their own. Thus, contributing family workers cannot be "with an enterprise but not at work". Therefore, contributing family workers not at work during the reference period should not be included among the employed.

family gain' in the definition of employment should be interpreted as referring to any activity falling within the SNA production boundary" (Hussmanns, 2007: 8-9) is not convincing.

This definition of employment, for instance the one hour criterion, adopts a strictly economic perspective. In this view, work should be productive in the sense that it contributes to the production as defined in the SNA. The fact that all work should be counted as of one hour per week is in line with the reasoning that all productive activities should be covered. For the same reason, the one hour criterion is a prerequisite for the consistency of the LFS with National Accounts data on production, as input and output of economic production have to refer to the same scope. The labour force concept is therefore indispensable for National Accounts and economists who require a complete coverage of even the smallest input of labour.

The labour force concept is obviously less relevant relating to the requirements of social research. Both the large variance of the socio-economic status and of the material well-being of the employed have to be taken into account for a proper interpretation. Persons classified as employed according to the labour force concept are not all integrated in the labour market to the same degree. Furthermore, for the definition as an employed person it is not relevant whether each employed is in a position to make a living from the employment income. As for many sociological or social policy related analyses these and further aspects are of major interest, further differentiations of the group of employed persons become necessary. The ILO itself, in a resolution adopted by the ICLS in 1998, defined a list of "inadequate employment situations" including skill-related and income-related inadequate employment (ILO, 1998b). Further examples include the distinction of various standard and non-standard employment types (see Schmid, 2010; Wingerter, 2009) or analyses using indicators on quality of employment (see UNECE, 2009; Körner, Puch & Wingerter, 2010). Also the self-perceived activity status (or main status) is increasingly used to complement the indicators based on the labour force concept.

Still, despite the restrictions of the labour force concept, it has to be noted that its extensive definition of employment in the first place enables researchers to monitor the development on the fringes of the labour market, which is of big interest also for social scientists. The one hour criterion has further important strengths: Properly measured, it is an objective criterion, which is (in principle) free of cultural differences and various institutional settings in national and regional labour markets and thus enabling international comparisons. Setting the threshold to (as little as) one hour per week has still another advantage. Apart from the fact that other possible thresholds are just as arbitrary, every higher threshold might produce effects of the results due to institutional differences in various national labour markets.

Nevertheless, the one hour criterion can be in conflict with the everyday life's perception of employment. Students or pensioners having a small job, although employed according to the labour force concept, would probably not refer to themselves as being "employed" in a population survey. Operationalising the labour force concept for a population survey therefore needs special efforts and a well defined set of questions (Gauckler & Körner, 2011).

8.1.2 Defining unemployment

As the groups defined by the labour force concept are mutually exclusive, the definition of unemployment logically builds on the one of employment. The people who have been identified as being employed can, by definition, not be unemployed. Consequently the first criterion of unemployment is the complete lack of work, i.e. the absence of any paid activity of one hour or more per week. In addition to this basic criterion, unemployed persons have to fulfil two further criteria: The active search for employment as well as the availability for work. This means that unemployed persons, "in a specified recent period" (ILO, 1982), have to have taken specific steps to seek employment **and** to be currently available for paid employment or self-employment. The definition of the "specific steps" is quite extensive as it includes diverse formal and informal activities that do not all require particular efforts. To be considered as a person seeking work it is sufficient to indicate that one specific step has been taken. This indicates that the intention was to cover any activity undertaken to find employment, even sporadic or informal.[4] At the same time, the reference to "specific steps" indicates that just a general statement of seeking work is not sufficient either (Hussmanns, 2007:14).

As for employment, also the definition of unemployment is adopting a strictly economic perspective. It measures the number of persons without work who are currently available and actively searching, but does not provide an exhaustive measurement of those potentially available for the labour market. For example, employed persons who want to work more are dismissed just as persons who are interested to work in principle, but who for whatsoever reason were currently not meeting the criteria of active job search or immediate availability (see e.g. Jones & Riddell, 1999; Brandolini, Cipollone & Viviano, 2004; Garrido & Toharia, 2004; Bradbury, 2006).

Against this background, Eurostat and the National Statistical Institutes have developed a set of supplementary indicators that try to cover also people who do not entirely fulfil the criteria for unemployment, but nevertheless share some characteristics with the unemployed. These indicators include the underemployed part-time workers as well as the potential additional labour force, i.e. persons seeking work, but not immediately available or persons available to work, but not seeking (see Fuente, 2011).

In the case of unemployment, the biggest advantage of the labour force concept again is that it is conceptually independent from the institutional settings given in a country. For example, the criteria for registered unemployment are laid down in the national legislation and hence differ a lot from one country to another. Therefore the labour force concept, in principle, is the most suitable basis for international comparisons. At the same time, it can serve to monitor the development of unemployment over time without the effects due to changes in the national labour market policies.

4 Specific steps of search for employment include the "registration at a public or private employment agency [for the purpose of obtaining a job offer], application to employers, checking at worksites, farms, factory gates, market or other assembly places, placing or answering newspaper advertisements, seeking assistance of friends or relatives, looking for land, building, machinery or equipment to establish an own enterprise, arranging for financial resources, applying for permits and licences, etc." (ILO, 1982: para. 10, c)

8.2 Implementing the Labour Force Concept in the Labour Force Survey

In order to properly capture the employment status in household surveys, the labour force concept needs to be further operationalised. The ILO resolutions and guidelines for example often do not provide exact reference periods, some thresholds are not further specified (like the continued receipt of a "significant" part of the salary), and on a number of instances, items are to be specified "according to national circumstances". In addition, the labour force concept needs to be operationalised in order to capture the relevant data in a household survey. In addition to the conceptual specifications as such, the concepts need to be translated into a language accessible to the respondents.

A further complication arises due to the construction of the LFS as a cross-national survey. Achieving a harmonised measurement requires that the implementation of the survey instruments has to be implemented in a functionally equivalent way in each of the member states. The LFS is in large parts an ex-ante output harmonised survey, i.e. the target variables are laid down at EU level, while the implementation of the measurement instruments is taken care of by the member states.[5] The national questionnaires, developed individually by each member state, at the same time have to take into account the conceptual EU requirements of the target variables and the national institutional background. The data obtained by the use of the national questionnaires, after the finalisation of the fieldwork, are being transcoded according to the specifications of the target variables in order to achieve a harmonised European data file.

Following this harmonisation approach, the implementation of the labour force concept requires three subsequent steps: (1) concept specification via regulations and guidelines at EU level, (2) construction of the questionnaires at national level and (3) transcodification into the target variables (see figure 2).

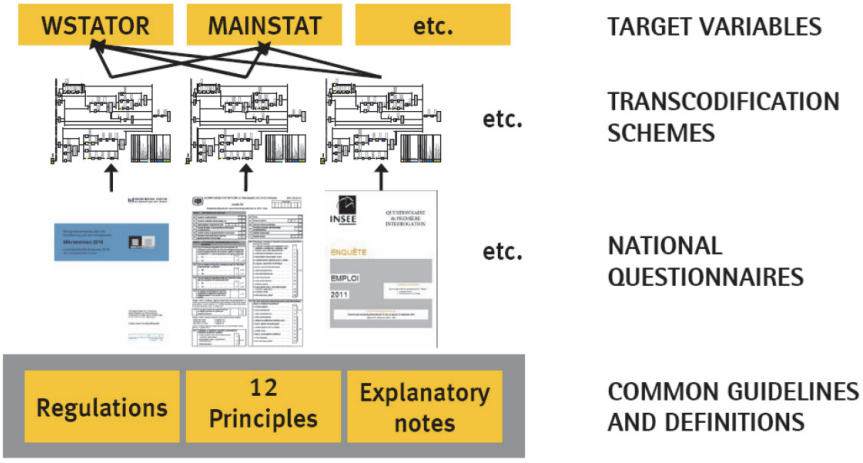


Figure 2: Harmonisation approach of the Labour Force Survey

5 For an overview on this and other harmonisation approaches see Körner & Meyer, 2005.

8.2.1 Concept specification

The concepts adopted by the ICLS are further specified through a set of (legally binding) regulations and recommendations. First of all, the basic framework regulation of the LFS (no. 577/1998) defines the target variables to be delivered to Eurostat. While the target variables are required by law, the member states enjoy some degree of freedom to implement these variables in their national questionnaires. The framework regulation thus lays down the delivery requirements for the member states. Curiously enough, the labour status is not included in the list of variables to be delivered as it has to be derived from other variables. The variables used for the construction of the labour status (ILOSTAT) are the labour status during the reference week (WSTATOR), the search for employment (SEEKWORK), the use of specific job search methods (METHODA to METHODM) as well as the availability for work (AVAILBLE). In order to obtain these variables, further variables are needed. For example, the classification of persons absent from their job at least requires information on the reason for not having worked in the reference week (NOWKREAS). Most member states use additional auxiliary variables in their national questionnaires to be able to properly capture the entire group of employed persons.

The further conceptual specifications (as well as the most important operationalisations to be used) are defined in commission regulation no. 1897/2000. This regulation mainly provides for the specification of the reference periods and the definition of unemployment, but it also lays down a number of principles (also referred to as "12 principles") to be applied during the construction of the questionnaires (see section 2.2).

The reference period for employment is defined as a reference week "from Monday to Sunday", the reference period for job search as the past four weeks including the reference week and the one for availability as the end of the two weeks following the reference week. Regarding the definition of unemployment, the search methods considered as "active" are being defined and specified.[6] Furthermore the regulation defines the age boundaries (15 years or older for employment, 15 to 74 years for unemployment), as well as the treatment of specific groups like non-employed persons who are not searching employment because they did already find a job. Interestingly enough, there is no equivalent operational definition for employment, which is however implicitly given in the recommendations for the operationalisation of the variables ("explanatory notes").[7]

This information is also included in another Commission regulation (no. 377/2008 for the latest version) that defines the codification of the variables, i.e. the items and filters

6 "Active" search methods, according to Commission regulation no. 1897/2000 include having been in contact with a public employment office to find work, whoever took the initiative (METHODA), having been in contact with a private agency (temporary work agency, firm specialising in recruitment, etc.) to find work (METHODB), applying to employers directly (METHODC), asking among friends, relatives, unions, etc., to find work (METHODD), placing or answering job advertisements (METHODE), studying job advertisements (METHODF), taking a recruitment test or examination or being interviewed (METHODG), looking for land, premises or equipment (METHODH), applying for permits, licences or financial resources (METHODI) as well as "other methods" (METHODM).

7 Currently, in a joint effort of Eurostat and the member states, an operational definition of employment is being developed (see section 8.3).

to be covered by the national questionnaires. The response categories laid down in this regulation are shown in table 2.

For a harmonised measurement, in particular the variable labour status during the reference week (WSTATOR) needs further specification beyond the one provided by the regulations. These specifications are given in recommendations for the implementation of the LFS in the member states that are being developed and updated jointly by Eurostat and the member states (Eurostat, 2011b). These recommendations, commonly referred to as "Explanatory Notes", contain detailed definitions for each variable, but also guidelines for implementation and good practices. The explanatory notes give guidance regarding the treatment of numerous specific groups of employed persons that are not clearly identified by the ILO resolutions:

- Persons in vocational training (considered employed if they receive payments in cash or fringe benefits)
- Unpaid family workers
- Persons raising agricultural products for own consumption (considered employed if it constitutes an important contribution to the total consumption of the household)
- Persons in workfare schemes (considered employed)
- Persons building a house (considered employed only if the house is intended to be sold or rented)
- Persons in maternity leave (considered employed unless they are absent form work for more than three months)
- Seasonal workers during off-season (considered employed if they have an assurance of return to work **and** the employer continues to pay at least 50% of the wage or salary)
- Persons on lay-off (leave initiated by the employer; considered employed if work is resumed within three months **and** the employer continues to pay at least 50% of the wage or salary)
- Persons with a job on other types of absences (considered employed in case of continued receipt of wage or salary **and** an assurance of a return to work; equally considered employed if the duration of the absence does not exceed a specified threshold.)

Table 2: LFS target variables used to derive the ILO labour status

Variable	Code	Description
WSTATOR	1	Did any work for pay or profit during the reference week – one hour or more (including family workers but excluding conscripts on compulsory military or community service)
	2	Was not working but had a job or business from which he/she was absent during the reference week (including family workers but excluding conscripts on compulsory military or community service)
	3	Was not working because on lay-off
	4	Was a conscript on compulsory military or community service
	5	Others (15 years or more) who neither work nor had a job or business during the reference week
	9	Not applicable (child less than 15 years old)
SEEKWORK	1	Person has already found a job which will start within a period of at most 3 months
	2	Person has already found a job which will start in more than 3 months and is not seeking employment
	3	Person is not seeking employment and has not found any job to start later
	4	Person is seeking employment
AVAILBLE	1	Person could start to work immediately (within 2 weeks)
	2	Person could not start to work immediately (within 2 weeks)
Derived from the above:		
ILOSTAT	1	Employed
	2	Unemployed
	3	Inactive
	4	Compulsory military service
	9	Person less than 15 years old

Based on these criteria, employed persons are coded WSTATOR=1 if they worked during the reference week or WSTATOR=2 if they did not work, but had a formal job attachment or an enterprise that continued to exist.

Table 3: Codification of the ILO labour status in the LFS (derived variable ILOSTAT)[8]

Persons aged 15 years or older									
WSTATOR=1,2	WSTATOR=4	WSTATOR=3, 5							
		SEEKWORK=1			SEEKWORK=2,3	SEEKWORK=4			
		AVAILBLE				Active job search			
		1		2		yes[7]			no
						AVAILBLE			
						1		2	
		Age				Age			
		<75	>74			<75	>74		
ILOSTAT = 1	4	2	3	3	3	2	3	3	3

As a summary of these provisions given in the regulations or in the explanatory notes, the codification shown in table 3 can be derived. Given that the diverse groups of employed persons are correctly assigned the codes 1, 2, or 4 of the variable WSTATOR, the codification is straightforward. Also the codification of the unemployed (ILOSTAT=2) is only slightly complicated by the special treatment of the persons not seeking work for the reason that they already found a job, which they will start within a period of three months after the reference week. If the complex architecture of the labour force concept can be reduced to the simple structure shown in table 3, its implementation in a questionnaire still requires a sophisticated questionnaire design and testing.

8.2.2 Questionnaire construction

The elements of the labour force concept discussed so far are valid without any difference in all member states. The next step, the implementation of this concept in a measurement instrument, is handled differently in each of the member states. Using ex-ante output harmonisation, the common concepts to be measured are fixed in advance while the national questionnaires can be shaped according to the national context. This has the advantage that the questionnaires can be adapted to the specific institutional and cultural context. At the same time such approach can also be challenging for the objective of international comparability.

In contrast to many other European statistics, in the case of the LFS, the member states have to respect a number of basic principles regarding the methodological setup, for instance the question wording (laid down in Commission regulation no. 1897/2000).

8 METHODA=1 or METHODB=1 or METHODC=1 or METHODD=1 or METHODE=1 or METHODF=1 or METHODG=1 or METHODH=1 or METHODI=1 or METHODM=1

Furthermore, the Explanatory Notes provide some additional guidance, without however so far defining concrete model questions or even a model questionnaire.

As shown in section 2.1, the labour market situations to be covered for the variable labour status in the reference week (WSTATOR) are very diverse. It is evident that one single question will not be sufficient to achieve an appropriate measurement. This is also acknowledged by the principles laid down in the regulation. These require at least two separate questions: One question about the current activity in the reference week (e.g., "In the 7 days ending Sunday the [date] did you do any work for pay or profit even if it was only for one hour?") and another one about having had a job form which the respondent was absent during the reference week (e.g., "Even though you were not doing any work for pay or profit in that period, did you have a job or business that you were absent from?"). As in the operationalisation of the labour force concept, different treatments are required according to the reason of the absence. Consequently, also a question regarding the reason of absence from the job needs to be included (and is required anyway in the variable NOWKREAS). From the concept specification regarding persons on leave, one can furthermore deduct that information needs to be collected about the duration of the absence probably also regarding the existence of a continuous pay of wage or salary. Furthermore, the principles laid down in the regulation also require a targeted question (or at least a cue) for the identification of contributing family members.

The basic challenge of the measurement of employment of the number of employed persons according to the labour force concept is to exhaustively capture persons with small jobs. For example, according to the work of a recent Task Force on quality of the LFS, the failure to achieve this goal is the "first source of incoherence" (Eurostat, 2009: 52) between the LFS and the employment figures from the National Accounts. Also the principles require at least a cue for persons on marginal employment in the employment questions, and many countries (like Germany) will add a separate question in order to capture persons with small jobs. Recent research at the Federal Statistical Office has shown that targeting the questionnaire design to persons with small jobs can lead to important improvements of the employment results (see Gauckler & Körner, 2011).

Also for the identification of the unemployed, the principles stated in the regulation already sketch the basic structure of the questionnaire. First, all persons not identified as employed have to be asked the questions on job search. The question on job search should equally not be preceded by a question referring to the registration at a public employment agency, as respondents might otherwise tend to refer to this status. Like for employment also the search for small jobs needs to be referred to in the question. Having established the search for work, further questions are currently requested regarding the methods used to find a job. The regulation stipulated that this question must cover not only the nine active search methods introduced above, but also further methods considered as "passive" (like waiting for a reply from the employment agency).[9]

9 As this distinction is not included in the resolutions and guidelines of the ICLS, it is currently under discussion whether it is still appropriate. Furthermore, there might be less burdensome approaches to measure the active job search criterion (see section 8.3).

Furthermore, the principles provide some guidance regarding the sequence of the questions as well as the sequence of some response options for some of the questions.

Although, taking all the principles together, key elements of a model questionnaire become visible, there is still room for national adaptations. This room is widely used by the member states which might be a challenge for harmonisation. According to a recent study commissioned by Eurostat, the number of questions used to measure the labour status in the reference week (variable WSTATOR) varies between one and 13 questions, with Germany currently using seven questions (Massarelli, 2011). Without entering into the detail of the national questionnaires, it seems unlikely that this variation can be explained by institutional differences alone.

A further important element concerns the skip instructions used in national questionnaires. The skip instructions can impact upon the populations to which the questions are targeted and can thus be a further factor hampering cross-national harmonisation. Against this background, Eurostat and the National Statistical Institutes are currently engaged in a joint Task Force aiming at further improvements of the harmonisation of the measurement of employment and unemployment (see section 8.3).

8.2.3 Transcodification

Once the data collection is completed, a further step is necessary to arrive at harmonised data sets for all member states. The data collected with the national questionnaires need to be transcoded into the codification laid down in Commission regulation 377/2008. As the questionnaires differ, each country develops its own transcodification scheme. Theses schemes are highly complex at least for some countries. This may result in a lack of transparency of these operations and therefore could create risks regarding cross-national comparability. Unfortunately, so far little guidance is available on the construction of the transcodification schemes. Consequently, in the ongoing work, a harmonised transcodification scheme is developed together with the model questionnaire, to avoid compromising harmonisation in this actually rather technical process.

8.3 Conclusions and ongoing activities

Against the background of institutional and cultural differences prevailing national definitions of employment and unemployment, the development of an internally harmonised approach of measurement is not easily achieved. The labour force concept of the ILO tries to overcome the heterogeneity in national definitions by entirely refraining from elements usually found in social and labour legislation. In the field of employment, the core element is the definition of employment as any productive activity, which could be as small as one hour per week. As shown in this contribution, the use of this "one hour criterion" has many advantages: It refers to an objective criterion, it allows a monitoring of the fringes of the labour market and it is consistent with the concepts applied in National Accounts. For unemployment, the institutional differences on the national level have probably an even larger effect than those regulating employment. The registration at a labour office is part of an often complex (national) social legislation that com-

bines job placement services with the provision of social benefits. In order not to obtain results biased by these differences, the labour force concepts again uses criteria that are in principle external to social legislation, namely the active search for work in the four weeks preceding the reference week and the availability for work in the two weeks following the reference week. Contrary to the one hour criterion, these criteria already contain some subjective elements. That is why the operationalisation requires much care. The concept itself is a necessary, but no sufficient condition to achieve a harmonised measurement. As shown in this contribution the operationalisation of the labour force concept is a complex undertaking for which no simple solutions are available. The implementation of the various criteria of the labour force concept requires intensive methodological research. This is even more the case for a harmonised operationalisation in a cross-national survey like the LFS.

As not only labour markets are constantly evolving, but also methodological research continuously provides new input, several activities regarding the improvement and further development of the labour force concept are ongoing. These developments concern the concept as such, its operationalisation in survey practice, as well as the analysis of the data obtained.

(1) The labour force concept is currently being reviewed at ILO level by the Working Group for the Advancement of Employment and Unemployment Statistics. While the working group reviews all elements of the concept, it seems probable that key elements like the one hour criterion and the definition of unemployment will possibly not be changed substantially (see ILO, 2009a). On other issues there is a need of clarification or supplementary elements. This for instance concerns the treatment of activities considered as "productive" according to the SNA production boundary, but not covered by the employment definition of the 1982 ICLS resolution, i.e. subsistence workers, voluntary workers (not producing for own consumption), and unpaid trainees. Being of lesser relevance in developed countries these specifications are of high importance to make the statistical concepts more appropriate for the labour market situations in developing countries.

    Other elements of the labour force concept at least need clarification. This for instance is the case of persons with a job from which they have been absent during the reference week. The guidelines of the ICLS in this domain currently fail to provide the necessary clarity. Against this background, for the implementation in European countries Eurostat and the National Statistical Institutes, in a joint Task Force on the Harmonisation of the Measurement of Employment and Unemployment, currently (among other things) develop an operational definition providing clear guidance on how to treat persons in different types of absences.

(2) This contribution has shown that the labour force concept cannot be directly implemented in a concrete survey. Quite a number of specifications are necessary, both conceptually and regarding the survey operationalisation. Together with the National Statistical Institutes, Eurostat in the past 20 years has put a lot of effort in achieving a harmonised measurement in the Labour Force Surveys. Nevertheless, recent methodological research has indicated that further efforts are needed to reduce

cross-national variation. The above mentioned Task Force reviews the current harmonisation approach and suggests improvements wherever necessary. For the first time in the history of the Labour Force Survey of the European Union, apart from guidelines for the operationalisation, also a model questionnaire is being developed for the application in the member states. This model questionnaire introduces further elements of input harmonisation. Nevertheless defining a questionnaire alone is not a sufficient condition to achieve cross-national harmonisation. The questionnaire needs to be subjected to tests in the member states. Also such tests will be launched and coordinated by the Task Force.

(3) The definitions provided by the labour force concept adopt an economic perspective. That means that they do not only differ from everyday life's perception, but also from many common research questions, for instance in social science. A use of data based on the labour force concept therefore requires a conscious analysis strategy that further tailors the categories in accordance with the research question under consideration. Recently indicators have been developed that further differentiate the sub-populations of the employed, the unemployed and the persons economically not active. Examples of the indicators include the new European indicators to supplement the ILO unemployment rate, but also the distinction of different types of standard and non-standard employment. Further analytical possibilities will be added due to the work of an Expert Group under the umbrella of the United Nations Economic Commission for Europe (UNECE) that started its work in early 2012. If these and further analytical possibilities are applied appropriately, the labour force concept provides a powerful instrument for labour market and socio-economic analysis.

As mentioned at the outset, for the Labour Force Survey, the labour status is not a socio-economic variable, but the key variable of the survey. Therefore more effort can be taken in the Labour Force Survey compared to social surveys for which the the labour status is one socio-economic variable amongst others. Conseqeuntly many social surveys might require a simplified approach. Recently simplified operationalisations of the labour force concept have been developed by Hoffmeyer-Zlotnik and Warner (2011: 51-64), but also for the purpose of the household sample of the German census in 2011 (Gauckler & Körner, 2011). The example of the German census questionnaire 2011 is instructive not only as it manages to capture the main criteria of the labour status with a limited set of questions. It at the same time integrates in an innovative way the self-perceived activity status (main status) of the respondent. The main status is a core social variable of high analytical interest. As used in the case of the German census, it at the same time helps capturing people in marginal employment and eases the flow of the interview.

8.4 Annex: Legal acts referred to in the text

The Labour Force Survey is mandated through a number of European regulations. The following regulations are essential for the harmonisation of the LFS and have been referred to in this contribution:

- Council regulation (EC) No 577/98 of 9 March 1998 on the organisation of a labour force sample survey in the Community. Official Journal of the European Union, 14.3.1998, L 77/3.
- Commission regulation (EC) No 1897/2000 of 7 September 2000 implementing Council Regulation (EC) No 577/98 on the organisation of a labour force sample survey in the Community concerning the operational definition of unemployment. Official Journal of the European Union, 8.9.2000, L 228/18.
- Commission regulation (EC) No 377/2008 of 25 April 2008 implementing Council Regulation (EC) No 577/98 on the organisation of a labour force sample survey in the Community as regards the codification to be used for data transmission from 2009 onwards, the use of a sub-sample for the collection of data on structural variables and the definition of the reference quarters Official Journal of the European Union, 26.4.2008, L 114/57.

Marie Valentova and Małgorzata Mikucka

9 The ILO Concept Measuring Parental Leave Across Countries

9.1 Parental leave as an important aspect of measuring employment status of women

The labour market status of women, in particular whether they are economically active and employed, is an important indicator of their life chances. Country-specific women's employment rates tell us about the economic dependence of women on other family members, serving as one of the indicators of gender equality. Clearly, the validity of conclusions drawn from comparing countries depends on the quality and comparability of data. In this paper we focus on the situation of women in parental leave in the Czech Republic and Slovakia, and show that, for this group of women, the comparability of the European Union Labour Force Survey (EU-LFS) labour market status variable is limited.

According to the classical approach, the conditions of employment and non-employment can be easily distinguished. A housewife or house husband, i.e. persons who earn no income and devote their time to home and family, is obviously not employed. Persons who spend eight hours each day in a factory or in an office and get their wage are clearly employed. How, however, should we classify a formally employed person who, during a period of considerable length, does not perform any occupation-related tasks and receives money from the social security system? This is, for instance, the situation of women on parental leave.

Our article analyses how parental leave beneficiaries are classified in the labour market status variable in the EU-LFS in 2008. Are they considered employed or inactive? In concrete terms, we analyse recommendations and instructions regarding the core EU-LSF labour market variables used to derive the labour market status variable in 2008, and we check how they are implemented in two selected countries (the Czech Republic and Slovakia). We report the differences found that might lead to potential inconsistency in the categorization of parental leave beneficiaries across Europe, which raises questions regarding the cross-country comparability of the labour market status variable.

9.2 ILO and EUROSTAT definition and measurement of labour market status of parental leave beneficiaries

Parental leave beneficiaries are attached to the labour market in a complex way. They physically interrupt their employment but usually remain formally employed and expect to return to their positions, which, according to the International Labour Organization (ILO) and consequently according to the Eurostat definition (Eurostat, 2006), justifies classifying them as employed but temporarily not working, thus employed.

The derived variable on labour market status used by ILO (ILOSTAT) consists of the following categories:

1. Employed
2. Unemployed
3. Inactive
4. Compulsory military service

To derive this variable, the EU-LFS uses the following set of variables:

- self-reported labour status during the reference week (WSTATOR),
- reason for not having worked at all though having a job (NOWKREAS),
- seeking employment during previous four weeks (SEEKWORK),
- availability to start working within two weeks (AVAILABLE), and
- methods used during previous four weeks to find work (METHOD).

A detailed description of the above variables (excluding NOWKREAS), as well as the method of constructing the labour market status variable can be found in Körner's chapter in this volume (Tables 2 and 3, see also Eurostat, 2008a,b). Especially important for the purpose of our paper is the variable NOWREAS, describing the reasons for not working despite having a job. Its response categories are listed below (Eurostat, 2008b).

Reason for not having worked at all though having a job (NOWKREAS)
FILTER: This variable concerns only persons who had a job from which they were absent during the reference week (WSTATOR=2)

0. Bad weather
1. Lack of work for technical or economic reasons
2. Labour dispute
3. School education or training
4. Own illness, injury or temporary disability
5. Maternity leave (including parental leave until 2005)
6. Parental leave (from 2006)
7. Holidays
8. Compensation leave (within the framework of work time banking or an annual contract for a set number of hours)
9. Other reasons (e.g. personal or family responsibilities)

According to the construction of the labour market status variable, persons on parental leave (NOWKREAS = 6) are included in the category of employed, in particular the group of employed who were "not working but had a job or business from which he/she was absent during the reference week (including family workers but excluding conscripts on

compulsory military or community service)" (WSTATOR = 2).[1] However, in order to classify the "employed but temporarily not working" as employed, they should have a formal job attachment (ILO, 2011a). The Eurostat definition of persons employed but temporarily not working stated in the EU-LFS explanatory notes (Eurostat, 2008a: 24) also stresses the importance of formal job attachment: "In general, the notion of temporary absence from work refers to situations in which a period of work is interrupted by a period of absence. This implies that persons are generally to be considered as having been temporarily absent from work and therefore employed if they had already worked at their current activity and were expected to return to their work after the period of absence. Persons without work who had made arrangements to take up paid employment or to engage in some self-employment activity at a date subsequent to the reference period, but who had not yet started work, are not to be considered as temporarily absent from work."

This definition requires specifying when a job (or a business) from which one is absent exists (Eurostat, 2008a: 24): "A job exists if there is a definite and pre-scheduled arrangement between an employer and employee for regular work (that is, every week or every month), whether the work is full-time or part-time. The number of hours of work done each week or each month may vary considerably, but as long as some work is done on a regular and scheduled basis, a job is considered to exist. In the case of employees, a person absent from work should be considered as employed if there is a formal attachment to the job, for example if at least one of the following criteria is fulfilled:

- the continued receipt of wage or salary, and an assurance of a return to work (or an agreement as to the date of return) following the end of the contingency.
- the elapsed duration of absence from the job which, wherever relevant, may be that duration for which workers can receive compensation benefits without obligation to accept other jobs."

9.3 National differences in classification of parental leave beneficiaries in the EU-LFS – existing references

The EU-LFS data are produced using the "target structure harmonization" method (Hoffmeyer-Zlotnik & Warner, 2011). The national agencies collect the data with independently prepared tools (questionnaires), harmonize them with the EU-LFS data matrix and send them to Eurostat. Selected core variables are measured according to the strict rules set by Eurostat. The measurement of remaining variables is adjusted according to national rules, therefore "controlled comparability is limited to the key variables" (Mejer, 2003:70; Hoffmeyer-Zlotnik & Warner, 2011: 38).

1 Eurostat (2008:27-28): "Code 06: Parental leave can be taken either by the mother or the father and is the interruption of work to bring up a child of young age. This code is used only for those persons on statutory parental leave (legal or contractual). Any other leave taken for reasons of child-bearing or rearing is coded 09."
The Eurostat document on Basic Concepts and Definitions from 2006 (Eurostat, 2006)

Eurostat and ILO recommendations suggest that the EU-LFS data should classify the parental leave beneficiaries as persons who were "not working but had a job or business from which he/she was absent during the reference week", and thus consequently as employed. However, there the official country-specific documentation (ILO, 2011a; ILO, 2011b; CSO, 2011) that in some countries the classification of parental leave beneficiaries is different. For example, the ILO documentation for the Czech Republic (ILO, 2011a,c) states that persons on additional childcare leave are not automatically classified as employed. This is also supported by the publication by the Czech Statistical Office (CSO, 2011): the respondents on parental leave are categorized as employed and working only if they keep working during their leave; otherwise they are considered either unemployed or economically inactive. Similarly, in the Slovak Republic persons on extended maternity (parental) leave are, according to the ILO (2011d), automatically excluded from the employed category.

The conclusions from these official documents are also supported by the empirical findings presented by Mikucka and Valentova (2011). The authors analysed the EU-LFS data from 2008 for four Easter European countries (Czech Republic, Slovakia, Hungary and Estonia) concerning the employment of women aged 18-40 years who had at least one child aged 0-2 years (i.e. the respondents who are most likely to be eligible for and benefit from parental leave). In the analysis, the authors focus on the variables WSTATOR and NOWKREAS in order to identify what percentage of the employed mothers were on parental leave according to EU-LSF data. The analysis showed that using these variables, which are key to defining the labour market status variable ILOSTAT, none of the employed mothers were on parental leave. At the same time, these countries stand out by having over 70% inactivity rates and very low levels of employment (below 24%, see: OECD, 2010) among mothers of young children, which stands against the very high parental leave take-up in post-socialist countries (Cermakova, 1997; Hamplová, 2003). For example, according to many sources (Plantenga & Remery, 2005; Anxo et al., 2007; Kocourková, 2010), the majority of women in the Czech Republic stay on parental leave until the child is between two and three years old.

This evidence suggests that in some countries the national data collecting agencies use their own definitions to construct variables, and to varying degrees follow the Eurostat guidelines on measuring the EU-LFS core variables. In other words, country data-collecting agencies determine independently how parental leave beneficiaries are classified.

9.4 National differences in classification of parental leave beneficiaries – comparative analysis of selected national questionnaires and interviewers' instructions regarding the EU-LFS core variables

To have a better view on how the core EU-LFS variables are measured and how the instructions for interviewers are communicated in different national contexts we focus on two countries: the Czech Republic and Slovakia. These countries were selected because of empirical evidence that they use classifications of parental leave beneficiaries that depart from the Eurostat guidelines (see Mikucka & Valentova, 2011). In the follow-

ing text we present national questionnaires and interviewers' instructions used in 2008 (for the Czech Republic: CSU, 2007a,b; Eurostat, 2007a; for Slovakia: Slovak Statistical Office, 2007, 2008), and compare them to the Eurostat EU-LSF core variables (Eurostat, 2008b) and to the Eurostat explanatory notes (Eurostat, 2008a,c). We focus only on core variables concerning labour market status, which will allow us to examine how people on parental leave were classified.

After examination of the documents in national languages, we distinguish two groups of differences. The first group is related to the formulation of the core questions out of which the harmonized variable WSTATOR is constructed. The second group of differences concerns the formulations of the interviewer's instructions related to these questions.

9.4.1 Wording and order of questions in national questionnaires

In Table 1 we present a detailed overview of national core variable questions that were used in the Czech Republic and Slovakia to obtain information equivalent to Eurostat's EU-LFS core variables WSTATOR and NOWKREAS.

In the Czech questionnaire the agency uses a set of questions that also function as subsequent filters. It starts with a general question that is equivalent to category 1 in the WSTATOR variable. Only respondents who did not work for at least one hour pass on to the following question, on whether the respondent had a job from which they were absent during the reference week. This could be an equivalent to response 2 in the WSTATOR variable. Only those who reported that they had a job were further asked whether their return to this job was guaranteed within 3 months or whether they received 50% of the salary from the employer. If the answer was "yes", only then were they asked to give reasons for their absence from work during the reference week. Thus, only respondents who passed all the filters could have declared that they were on parental leave, otherwise this information was lost.

As statutory parental leave in the Czech Republic in 2008 lasted at least 3 years and the parental leave benefits were on average below 50% of the salary (Mikucka & Valentova, 2011), people on parental leave were selected out and did not respond to the question concerning reasons of absence (NeprDuv). This implies that those who are on parental leave and do not comply with the two specified conditions will not be considered as employed when the labour market status variable is derived.

In the Slovak questionnaire the sequence of questions was different. The order of questions deviated after the question about whether the respondent had a job even if they were not working during the reference week. In the Slovak questionnaire all respondents who answered yes to this question were asked the following question on the reason for absence from work. Thus, in the Slovak case, in contrast to the Czech case, all individuals who did not work during the reference week but had a job answered the question concerning the reasons for being absent.

Table 1: Table comparing Eurostat's EU-LSF core variable format with the selected core variable questions used in national questionnaires in the Czech Republic and Slovakia.

EUROSTAT core variable format	The Czech Republic core variable questions (translated into English)	Slovak Republic core variable questions (translated into English)
WSTATOR - labour status during the reference week 1. Did any work for pay or profit during the reference week of one hour or more (including family workers but excluding conscripts on compulsory military or community service) 2. Was not working but had a job or business from which he/she was absent during the reference week (including family workers but excluding conscripts on compulsory military or community service) 3. Was not working because had been laid off 4. Was a conscript on compulsory military or community service 5. Other (15 years or more) who neither worked nor had a job or business during the reference week	Prac1H-Did any work for pay, reward (for example, unpaid family worker) or profit during the reference week of one hour or more (including family workers but excluding conscripts on compulsory military or community service)? 1. yes 2. no	Q1 Did any work for pay or profit during the reference week of one hour or more (respectively unpaid work of family worker or unpaid work in family company) 1. yes 2. no
	Prac0H-Was not working but had a job from which he/she was absent during the reference week (FILTER if Prac1H = 2) 1. yes 2. no	Q2. Was not working but had a job from which he/she was absent during the reference week (FILTER if Q1=2) 1. yes 2. no
	NavrPrac - In this job, is the return guaranteed within 3 months or does he/she receive 50% of the salary from the employer? (FILTER if PAac0H=1) 1. yes (including maternity and parental leave) 2. no	

Reason for not having worked at all though having a job (NOWKREAS): This variable concerns only persons who had a job from which they were absent during the reference week (FILTER IF WSTATOR=2) 01. Bad weather 02. Lack of work for technical or economic reasons 03. Labour dispute 04. School education or training 05. Own illness, injury or temporary disability 06. Maternity leave (including parental leave until 2005) 07. Parental leave (from 2006) 08. Holidays 09. Compensation leave (within the framework of work time banking or an annual contract for a set number of hours) 10. Other reasons (e.g. personal or family responsibilities)	NeprDuv - Reason for not having worked at all though having a job (FILTER if NavrPrac=1) 01. Maternity leave 02. Parental leave/concerns employees and members of production cooperatives 03. Holidays 04. Compensative leave (flexible work time) 05. Own illness or injury 06. Bad weather 07. Lack of work for technical or economic reasons 08. Labour dispute/strike 09. School education or training 10. Other reasons (personal, familial, etc.)	Q3 The main reason for not having worked at all though having a job (FILSTER if Q2=1) 01. Own illness, injury 02. Holidays 03. Maternity leave 04. Parental leave 05. Compensation leave 06. Lack of work for technical or economic reasons 07. Bad weather 08. Labour dispute 09. School education or training 10. Personal or family reasons 11. Other reasons (name)
		FILFTER (Q3=5-11) Q4 For how long have you been absent from your work (FILFTER if Q3=5-11) 1. Less than three months 2. More than three months During your absence from work have you received at least half of your salary? (FILTER if Q4 = 2) 1. yes 2. no

Source: Eurostat, 2008b; Slovak Statistical Office, 2008; CSU, 2007a

Note: Czech and Slovak text was translated into English for the purpose of this chapter

9.4.2 Interviewer's instructions in national questionnaires

To respond correctly to the filter questions, both the interviewers and the respondents need to be well instructed. Therefore we check instructions for interviewers that were related to the key filter questions in the Czech and Slovak questionnaires.

With regard to the instructions in the Czech language, we discovered that interviewers' instructions related to the question "NavrPrac – In this job, is the return guaranteed within 3 months or does he/she receive 50% of the salary from the employer?" were formulated in a confusing manner. The instructions in the Czech language claim: "NavrPrac: If the respondent fulfills at leave at least one of the conditions (return to work within 3 months, more than 50% of salary) and is not on parental leave, he/she is considered as employed; in the opposite case, this is a person without employment. Further on, do not forget that for the persons on maternity and parental leave always fill out the code 1" (CSU, 2007b). The first part of the instruction stipulates that respondents who are on parental leave, even if they meet the two specified conditions, won't be classified as employed but as persons without employment when the labour market status variable is derived. At the same time, the latter part of the instruction (the last sentence) indicates that people on maternity or parental leave should be coded as 1, which means that they would be classified as employed in the end. The interviewers thus received a contradicting message on how to code parental leave beneficiaries.

As previously stated, in the Slovak questionnaire, parental leave beneficiaries had a chance to declare that they were on parental leave as there was no explicit filter that would prevent them from doing so. However, we found ambiguity in the instructions for interviewers. An interviewer, and consequently a respondent, is left without any kind of explicit reference on how to deal with parental leave beneficiaries in the first two questions regarding working status (Q1 and Q2). Parental leave is mentioned for the first time in question 3 (Q3), but there is a high probability that parental leave beneficiaries have already been put into a different category as there is no clear guidance on how they should be classified in preceding filter questions.

9.5 Conclusions

In this paper we have examined the consistency between the EU-LFS core variable descriptions and related guidelines for national agencies and the national questionnaires and interviewer's instructions used in two countries (the Czech Republic and the Slovak Republic) in 2008. The purpose of this exercise was to investigate the classification of parental leave beneficiaries in the core variable from which the labour market status variable, broadly used for comparative purposes, is derived.

Although the EU-LFS data are presented as a single data set, they are collected by independent country agencies. Before release to the public they are harmonized, which should guarantee the cross-country comparability of the obtained data (Mejer, 2003; Hoffmeyer-Zlotnik & Warner, 2011: 38-39).

For the two analysed countries we have shown differences in the ways the questions used to derive the labour market status variable are formulated; we also showed some

inconsistencies in the instructions related to them. The main issue that might lead to some cross-country comparability problems is related to the instructions under which a respondent is defined as "not working but had a job or business". These instructions vary between the Eurostat EU-LFS's guidelines and the national questionnaires and related interviewers' instructions. In the two analysed countries, we also found a difference in the order of the questions and related filters which implies that different subpopulations of respondents respond to subsequent questions. This might lead to the situation where, for example in the Czech Republic, all parental leave beneficiaries were filtered out (due to confusing interviewer's instructions) before the questions where they could have identified that they were on parental leave.

In 2008 iIn the analysed countries, women on parental leave receiving generous benefits are classified in the EU-LFS data as being inactive rather than "employed but temporarily not working". This practice is not consistent with the guidelines of the ILO and Eurostat. Our results are important from the perspective of comparative research. Firstly, using inconsistent classification rules hampers the comparability of employment rates, which is especially marked among mothers of small children. This greatly limits the possibility of monitoring achievement targets for women's employment as prescribed by the Lisbon Treaty. Secondly, our analysis illustrates the risk of bias in cross-national comparative studies in which the employment status of young women or mothers is a variable of interest. Finally, we show the importance of designing transparent and uniform measurements of labour market status and related interviewer's instructions, both in the EU-LFS and in other cross-national surveys.

However, it should be noted that our analysis refer to the material from 2008 as we had empirical evidence from the EU-LFS data that in that year parental leave beneficiaries were not classified as employed in the two analyzed coutnries. Further research might explore whether similar findings are to be found in other European countries and in following years.

Henryk Domański and Zbigniew Sawiński

10 Validity of the EGP Class Schema in Poland

The EGP (Erikson-Goldthorpe-Portocarero) is one of the most influential and mostly used contemporary class schemas (Erikson & Goldthorpe, 1992; Goldthorpe, 2007: 101 ff.). The EGP helps us describe and understand how class position relates to key socio-economic variables. It serves not only as a general background variable in social statistics, but also as an explanatory tool in basic research, having a wide range of applications in national and international research projects. Starting from its inception in the late 1970s, the EGP has been modified and refined on theoretical premises (Evans, 1992: 201 ff.; Evans & Mills, 1998: 87 ff.; Tåhlin, 2007: 557 ff.). Moreover, in order to enhance its validity some consecutive updates of its operationalization were undertaken (Ganzeboom *et al.,* 1992: 1 ff.; Ganzeboom & Treiman, 1996: 201 ff.; 2003: 159 ff.; Leiulsfrud, Bison & Jensberg, 2005).

Our concern focuses on the EGP's utility as a national schema of social classes. Originally, the EGP was designed for analytical purposes in comparative research, mainly in social stratification and mobility studies, but it is also applied in research on consumption, social behavior, and various cultural practices. However, in the case of a country which has not developed and validated a national classification, the EGP is a natural candidate to be applied as a coding schema at national level. Aside from such circumstances – which could be more a rule than an exception – many countries use it as an alternative measure of socioeconomic position, alongside with the application of national instruments.

As validity studies conducted in Poland have shown, the EGP has strong relationships with key sociological variables, what indicates that it can be satisfactorily implemented in various contexts (Domański & Sawiński, 1995: 91 ff.; Domański & Przybysz, 2003: 85 ff.). Notwithstanding these positive tests, using internationally based class schemas at a national level is a challenge as national specific context may be blurred or not adequately captured by the principles of functional equivalence common for different countries.

Poland is a good candidate for addressing these problems. Compared to Western European societies, which served as prototypes for the original version of the EGP, Poland diverges with respect to welfare state regulations, labour market policies, and socio-occupational structure. It may be regarded as a prime example of the post-socialist society, undergoing regime transformation and transition from planned to market economy with a relatively high percentage of public sector employment as well as a big share of manual workers inherited from the previous system. At the same time, Poland can be portrayed as a typical example of the traditional society, marked with one of the highest percentages of farmers in Europe (about 7 per cent), implying that a substantial proportion of people is subjected to more particularistic types of authority and control.

The aim of this section is to compare the validity of two class schemas: the EGP and the Social Classification of Occupations (SCO-2009) developed for Poland, with the most recent version of the latter coming from 2009 (Domański, Sawiński & Słomczyński, 2009). The purpose of this comparison is to broaden earlier experiences with testing the validity of the EGP against the Polish classifications. We begin with a brief explanation of the conceptual underpinnings of the SCO-2009 and with a description of its categories in the fourteen-class model. Following it, is an empirical part in which the validity of both schemas with respect to selected sociological variables is compared. The section ends with concluding remarks on using the EGP in national studies.

10.1 Social Classification of Occupations 2009

The SCO-2009 is a substantially modified and updated version of the original Social Classification of Occupations, which appeared back in 1978 (Pohoski & Słomczyński, 1978). A year later it was supplemented by three occupational scales: prestige, socioeconomic position, and work complexity (Słomczyński & Kacprowicz, 1979). While *SCO-1978* and corresponding occupational scales were in use for almost thirty years, they have become increasingly obsolete as research tools. The reason for their inadequacy was not only the passage of time but also the considerable changes brought about by socioeconomic transformation and the introduction of a market economy. Additionally, the private sector experienced considerable growth, displaying itself in many new fields of business activity (*e.g.*, banking and finances, real estate, personal safety, counseling). Furthermore, new occupations appeared that did not exist in the socialist job market (*e.g.* stockbrokers, PR and HR specialists). Many institutions underwent structural changes that often resulted in new occupational positions and titles (*e.g.* new ranks were introduced in the police and fire brigade). Certain institutions ceased to exist (*e.g.* the communist Polish United Workers' Party), causing a widespread structure of positions to disappear, while other institutions were formed and developed (*i.a.* the Internet companies, TV and radio broadcasters, multiparty system, the Senate).

Three decades of using SCO-1978 in Polish sociological research allowed for a considerable collection of practical assessments, reflections, and suggestions as to what should be changed in order to make it a better instrument. The empirical basis for these modifications was data gathered in a specially designed study of occupations and organizational hierarchies carried out in the years 2004-2005. The study conducted by the Institute of Philosophy and Sociology of the Polish Academy of Sciences aimed at obtaining descriptions of tasks and actions performed at individual workstations, taking into account vertical and horizontal job relationships. The preselected sample involved various types of enterprises differentiated with respect to branch and sector (state-owned, cooperative, private), size and geographical location. Large industrial enterprises were included in the sample (*e.g.* foundries, mines, textile factories), along with health care, educational and cultural institutions, offices and bureaus, as well as private companies differentiated with respect to size and sector. Trained interviewers prepared workstation lists, taking the organizational hierarchy of the institution into consideration. In small

and medium-size institutions they listed all workstations, and in the large ones – up to 150 workstations. The fieldwork resulted in a collection of descriptions concerning 3665 workstations.

Theoretical principles for constructing a social classification of occupations were presented in a separate study (Domański, Sawiński & Słomczyński, 2009). At this point, there is a need to mention that detailed analysis of these data revealed that some of the original SCO-1978 categories were no longer useful, thus we eliminated them in order to clarify the classification. As for other elementary categories it turned out that they grouped heterogeneous occupational roles. Due to this, we divided them into more detailed, and thus, more consistent units. The analysis of ways respondents answered questions on occupation showed that respondents often referred only to the criteria they find the most relevant or important, therefore many occupational roles required different methods of their identification. The study also revealed that the respondents' knowledge is quite diverse with respect to questions they could be asked concerning occupations of other persons (*e.g.* a spouse, parents or a best friend).

These analyses resulted in the construction of the SCO-2009 which, on the most detailed level, consists of 376 four-digit elementary categories, collapsed into 77 three-digit minor groups, 29 two-digit sub-major groups, and 10 major categories. Commonly, sociological classifications of occupations are nominal variables, aimed at reflecting the most important social divisions, although this does not preclude the possibility of interpreting them in hierarchical terms. In using the SCO–2009 as a measure of social class one needs to aggregate the 376 elementary categories into meaningful segments of social structure. According to validity tests, the most recommended is an aggregation of detailed codes into 14 groups, which are thoroughly described in the next section. Empirical validation of this scheme - carried out on various data – revealed its discriminatory properties with respect to barriers of intergenerational mobility, marital homogamy, characteristics of material position, lifestyle, and attitudes (Domański, Sawiński & Słomczyński, 2009: Chapter 7). One can surely merge these 14 categories into higher-level segments in order to produce a more general mapping of the social structure.

10.2 The SCO–2009 class schema

Since researchers in this field are more familiar with the EGP than with the SCO–2009, it will be useful to make an overview of each of the 14 classes' composition.

1. High-level officials and managers

This category consists of persons holding top management positions in state administration, political parties, the army, justice, business organizations of various levels (from largest corporations and trade chains to small firms), and other institutions.

The distinctive characteristic of this category is access to power equated with authority. In case of managers the most crucial question is to what extent they are employees and to what - owners (Zeitlin, 1974: 1073 ff.). In the case of higher rank managers (directors) in business enterprises, management activities may be accompanied by an

ownership title. This applies in particular to managers of large business enterprises and members of boards of directors. Basing on empirical findings one can assume that the relationship between "being an owner" and "being an employee" forms a wide spectrum starting with hired managers that have no share in the ownership and ending with rentier owners who take no part in the management.

In the SCO–2009 "high-level managers" category only employees are included. For this category the institutional power (*authority*), which can – but does not have to – be accompanied by a share in ownership, was established as an allocation rule.[1] By virtue of executive power – that comes with a top position at the supervisory ladder – membership in this category warrants a privileged portfolio or other titles, which define the placement of this category in the workspace: high income and access to assets such as stock options, luxurious cars, attractive pension schemes, and lavish housing. Another determinant of a manager's unique position relates to particular recruitment and career patterns, which are based on loyalty, institutional norms, full-time availability, political affiliations (in case of governmental positions), or easier general access to high positions due to inheriting parents' wealth and assets (Kerbo, 1996). It is paralleled by a relatively less important role of the "universal" meritocratic criteria, such as the level of education or skills (Borchert & Zeiss, 2003).

If compared to the EGP schema, the category of "high-level officials and managers" in the SCO-2009 partly overlaps the Erikson-Goldthorpe's top category called "higher service class", also referred to as "the higher managerial and professional", or "the higher salariat". While in the EGP the "top managers" category merges managerial staff together with big owners, the latter are excluded from the top category in the SCO-2009. The examples of occupations which are typical for "high-level managers" in the SCO are: top governmental administrators (down to the level of district mayor), officials of political parties and trade unions on organization payroll (in the latter case, on the level of large enterprises), chief judges and chief prosecutors, directors of large enterprises, chief executives of large companies and cooperatives in both the state and private sectors, top ranks of armed forces, police, fire brigades and other uniformed services, as well as all positions that could be considered equivalent to the above. All managers of medium and lower level are located elsewhere.

2. Professionals

In Eastern European countries such as the Czech Republic, Hungary, Poland or Russia, this category may be referred to as the "non-technical intelligentsia". From the perspective of their place in the division of labour they can also be called the non-technical specialists. The marking feature of this category resides in its leading role in the fulfillment of important social functions related to scientific research, "production" of knowledge, education, health services, creation and development of culture, management of

1 In survey research, the criterion of classifying individuals as owners, as opposed to employees, is based on the answer to a question usually formulated as "Are you: (a) an employer or self-employed, or (b) an employee?" In the SCO, only those respondents, who declare themselves as employees, can be classified as high-level managers.

the economy as well as the organization of social life and public activity. The main determinant of entry into "non-technical professionals" is higher education (although this is not a necessary condition). Commonly, the intelligentsia in Poland enjoys the highest prestige, and their preferences, likes and dislikes, leisure activities, consumption patterns, and therefore their specific lifestyle – considered as "high culture" – create a reference point for other social classes. Relatively high autonomy, related to these occupations, provides intelligentsia with a greater opportunity to be self-directed and intellectually flexible – they display the highest degree of tolerance, moral liberalism, and self-assurance (Kohn & Słomczyński, 1990; Domański, 2008). Empirical research on the Polish intelligentsia demonstrates that among its characteristics are: a strong sense of identity enhanced by culture and mass media and a conviction of playing a leading role in the life of the nation, especially in maintaining its cultural tradition (Borucki, 1980; 1993: 99 ff.). The self-identity of non-technical specialists is strengthened by the formalized patterns of recruitment to these occupational roles and their job security. An entrance "pass" to these occupations is based on a university or college degree and, in certain professions (*e.g.* attorneys or medical doctors), also successful passage of special selection exams and completion of several years of extracurricular training.

Despite these common roots, professionals are split into various groups. As many researches demonstrated, one of the most important sources of their heterogeneity is a division into non-technical professionals and technical specialists – in Eastern European societies also referred to as the "technical intelligentsia" (Brint, 1984: 30 ff.; Van den Werfhorst & de Graaf, 2004: 211 ff.). The first one of these categories in SCO-2009 includes: scientists, artists, writers, journalists, lawyers, specialists in economics, business administration and management, teachers in secondary and tertiary education, medical doctors, pharmacists and clergy. Coded as non-technical professionals are also middle-level managers, provided that their managerial functions are related to their professional roles – this, for instance, includes directors-actors, researchers heading scientific teams, or medical doctors managing hospital departments. In addition, we qualify the self-employed or small-employer professionals among them, on assumption that the professional status is paramount.

3. Technical specialists

Due to the same reasons as in the case of non-technical professionals, the criteria for being classified into the category of technical specialists are mainly determined by formalized recruitment patterns based on an educational career which results in obtaining a university or college degree. Like non-technical professionals, they are typical representatives of the "service relationships" categories (contrasted with the "labour contract" categories) which – according to Goldthorpe (2007: 101 ff.) – are characterized by higher requirements of human assets specificity and high level of monitoring problems, that place them in the EGP "higher service" class. However, as compared with the non-technical professionals, occupational roles of the technical specialists are generally more closely related to material production. This basic difference in job content and character of work results in differences of attitudes, aspirations, and lifestyle; for example, in

Poland, members of this category spend more of their leisure time on physical activities, reading fewer books and going to the theater less often than members of other groups (Domański, 2000a). Among technical specialists, the most prevalent occupations are: engineers, managers of production departments, designers and constructors, specialists in agriculture and forestry, and veterinarians.

4. Technicians

In the occupational division of labour this category is located near technical intelligentsia, as many technicians work in production, repairs, and maintenance of machines and devices. They differ from technical specialists by their lower level of education and skills. Still, the proximity in the content of work and assignments between these "higher" and "lower" technical specialists shows up in their common preferences of ways to spend leisure time - for example, in Poland, "do-it-yourself" household projects are especially important to both groups. They differ in lifestyle from other non-manual workers in their relatively lower attendance at theaters, museums, operas, and other forms of participation in "higher culture" (Domański, 2000a). If they were a social group (this is only hypothetical assumption for better description of "technicians"), their identity would be based on holding medium-level positions in work organization and having secondary education of a vocational profile. To this category belong technicians and technologists of various specialties (construction, mechanical and electrical engineering, chemical processing, agriculture, forestry, medical technology, *etc*.), drafters, lab technicians, nurses, and technical managers including foremen. "Technicians" do not have their counterpart in the Erikson-Goldthorpe's schema. In a frequently used version of the EGP, consisting of 7 classes, they are allocated in a wide spectrum of categories, ranging from the "lower grade professionals" to the "lower grade routine non-manual".

5. Administrative workers and middle-level specialists

Allocation to this category is based on performing non-manual work requiring special occupational training and, at least, a secondary level of education. Regarding their location in the social hierarchy, they are next to non-technical professionals with respect to attitudes and lifestyle. This is probably the result of the similar character of work of these two categories (as is the case with technicians and technical specialists). Classified to this group are office managers, technicians in economics and data processing, work organization and product quality inspectors, bookkeepers, bank and office tellers, as well as middle-level specialists in educational, cultural, and leisure-time activities, including teachers, tutors, instructors in elementary and vocational schools, kindergartens, and in boarding houses. In the EGP they are mostly assigned to the "lower grade professionals" (lower service class).

6. Routine office workers

Given the distinction between "the service relationship" and "labour-contract" based categories, office workers (also referred to as "clerical workers") may be regarded as a typi-

cal case of "the mixed contract" relationships, with a combination of low requirements of human assets specificity and a high degree of monitoring problems (Goldthorpe, 2007: 101 ff.). In all countries office workers are located at the lowest levels of the hierarchy of non-manual workers. Their separate position is determined by performing simple routine non-manual tasks that do not require specialized training and skills. Another typical attribute of this group is high mobility during their work career (from lower to higher echelons of the occupational structure) and a weak attachment to the occupations resulting from it. This especially applies to women taking maternity leave and, subsequently, returning to the workforce. This strongly feminized category is composed of clerks in offices and other institutions, typists, secretaries, receptionists, clerks in supplies, office space administrators, and similar occupations. In the EGP, its closest counterpart would be the "lower grade routine non-manual" category.

7. Sales and service workers

The salient position of this category in the occupational structure is based on the distinctive character of work involved in routine service and sales, namely the combination of manual and non-manual tasks. Hence, it is a typical borderline category. It consists of rank-and-file workers employed mainly in trade and services, with a prevailing share of salespeople and cashiers in all kinds of stores. Another cluster of occupations within this category includes: workers in warehouses and fast-food services, conductors, guards, postmen and other workers in postal services, workers in personal services (photographers, barbers, hairdressers, and beauticians), skilled workers in restaurants, bars, and cafés (cooks, waiters, bartenders), lower rank officers in the armed forces, police, and fire brigades, customs officers, industrial and personal security guards. In Poland, it was empirically demonstrated that sales and service workers with supervisory status rank closer to the rank-and-file sales and service than to "high-level managers". Consequently, it was decided that store managers and managers in service outlets should be incorporated into this category, as well as lower ranks in the armed forces, police, and other services. In the EGP, "sales and service workers" are not regarded as a separate class segment, being constrained to mostly become parts of the lower grade routine non-manuals.

8. Foremen

The decision to distinguish "foremen" was made based on their unique location in the division of labour resulting from the combination of two usually contradictory roles: executive power and doing manual work. Foremen perform supervisory roles in the smallest organization units, but at the same time they are on the equal footing with workers whom they are supervising. They are to ensure that orders from above are properly executed by their fellow employees in work groups, of which the foremen are part. This ambivalent position was also taken into account in the EGP, in which they were distinguished, together with the lower technicians, within one category referred to as "lower

supervisory and technician occupations".[2] In Poland, the relative share of this group amounts to 1.8-2.0 percent of the workforce. Among manual workers foremen occupy the highest position. On average, they have higher incomes, enjoy a higher standard of living, and have greater access to goods and resources than skilled manual workers. Their preferences, life orientations, and values make them closer to office workers (Kohn & Slomczynski, 1990; Domański, 2000a). In the SCO-2009 this group is composed of foremen of all kinds, except of agriculture.

9. Skilled manual workers

This group may be identified with the traditional core of the working class, if one defines it in terms of Marxian theory. Membership in this category is determined by doing manual work in production, processing, repair, transportation, and distribution of material objects. In Eastern European countries skilled manual workers remain the largest segment of class structures – in the 1990s they still constituted *circa* 20–25 percent of the working population (Domański, 2000b). They are distinguishable from the lower working class by possessing required skills, documented by vocational school certificates, and on-the-job training. With respect to earnings, they make similar amounts of money as middle-level administrative workers. In Poland they also enjoy relatively high social prestige, which is exemplified by the traditionally high esteem granted to miners. What justifies classifying them among lower levels are: relatively low family income, low cultural capital defined in terms of readership of books and magazines as well as a number of books at home, watching popular TV programs, and eating patterns.

A large body of literature documented distinctive life orientations of skilled workers as compared with non-manual categories. They appear to be more authoritarian, representing higher conformity, and more traditional, what is expressed in moral condemnation of homosexuality, marital infidelity and abortion. They also express low tolerance of women's occupational work, blaming it for undermining the woman's role as a mother and wife (Domański, Rychard & Śpiewak, 2005). These orientations are maintained by intergenerational transmission of values, continuity of their positions during life careers, and barriers of mobility to the middle classes. The distinction between unskilled and skilled workers is pronounced in a higher communal solidarity of the latter, which is displayed in strong family bonds and attachment to local neighbourhood networks. Their social cohesiveness manifests in self-organization, membership in trade unions and in pursuing interests in a collective way (Gardawski, 1997).

The category of "skilled manual workers" comprises all occupations that are involved in the direct processing of materials and making of products, except for work considered preparatory or auxiliary to the main processing and production. It also includes car and truck drivers, railway engine and other vehicle operators, printers, quality controllers, and sailors.

2 This is not an exact equivalent of the "foremen" category in the SCO-2009. In the EGP, lower supervisory and lower technicians are more heterogeneous category involving first-line supervisors and lower echelons of technicians.

10. Unskilled workers in material production

Rationale for making a distinction between unskilled workers in material production and skilled manual workers may be defended on conceptual grounds. Namely, there are substantial differences between these two categories. Unskilled jobs require neither formal skills nor experience, they exhibit a low complexity of tasks and are less subjected to technological regime. In opposition to the category of skilled workers, a peculiar feature of unskilled workers is high job mobility during their life course. Their job careers are based on casual employment, which is easy to enter and easy to quit, marked by low job stability and seasonal employment work (*e.g.* in construction or digging). Given the temporary character of these jobs, unskilled workers are overwhelmingly recruited from the lowest segments of the working class, farmers and agricultural labourers. Having little to offer on the job market in terms of educational credentials they are exposed to occasional episodes of poverty and deprivations, suffering from low bargaining power, relatively low wages, and low social prestige. The category of "unskilled workers in material production" contains manual workers performing preparatory or auxiliary tasks in production, construction, railway track, road work, *etc*., in helping, packing, storage, and loading. It also covers a specific category of manual workers in outsourcing jobs.

11. Unskilled workers in services and trade

This category differs from the former as individuals perform simple, unskilled work related with personal services. This may be regarded as a further departure from the EGP, in which all unskilled (and semi-skilled) manual workers are constrained to be in the same class. Typical occupations for this group are: room cleaners, domestic cleaners, doorkeepers, hospital attendants, paramedic assistants, kitchen assistants, cloakroom attendants, or janitors. While in various dimensions of social stratification unskilled service workers place themselves in the vicinity of the other unskilled categories, they differ from them in the social context of their work. It is mainly individual – as contrasted with a more collective nature of unskilled work in material production – and performed at a different pace (no machines and no production or assembly line). This difference brings about a different system of remuneration, characterized by no piecework requirements and fewer formal regulations, along with greater autonomy over the labour process.

12. Labourers in agriculture, forestry, and fishing

As in the case of farm owners, the distinctive position of this group lies in a strong sociocultural barrier between urban and rural populations. This relates to many other well-recognized determinants of the salient position of agricultural labourers, such as strong intergenerational inheritance of membership in this category, marital homogamy, exclusiveness based on friendship patterns, limited cognitive perspective, and a traditional outlook on life. This category combines all agricultural workers doing manual jobs, allocating foremen in agriculture along with skilled and unskilled workers. Strong internal cohesion lessens the importance of differentiation within this category with respect to supervisory position and skills. Occupations connected with farming are typi-

cal for this category, however it also contains labourers in forestry, and fishermen in coastal and inland waters.

13. Farm owners

This category identifies the most distinctive out of the basic segments of social structure, which may be referred to the peasant class, or, in context of market economy, to farmers. The attributes of their salient position is ownership of individual farms, resulting in intergenerational inheritance of parental position, a wide spectrum of tasks performed in agricultural jobs (running the farm, growing crops, breeding animals, managing sales, *etc.*), strong linkages between occupational work and family life, cultural dissimilarity from city dwellers, geographic isolation from urban sites, and finally a system of values in which, in Poland, both religiousness and traditionalism play important roles (Gorlach, 2001). These characteristics are reflected in the sustaining of particularly strong social barriers, which are most visible in social mobility, friendship, and marriage patterns, locating farm owners in a separate dimension of the social structure (Sawiński & Domański, 1989; Domański & Przybysz, 2003: 85 ff.). According to standard coding routines of survey data, this category also embraces family members of farm owners, who live in the same household, due to the fact that farm work is a collective action and is shared by all persons living together. Similarly as in the case of agricultural labourers, this category also includes inland-waters fishermen who own cutters and who resemble farm owners in obtaining natural products from the environment.

14. Business owners

A theoretical perspective underlying the SCO places ownership at the core of classification principles. In the SCO-2009 this category consists of all owners engaged in production, construction, transportation, and services, with the exception of agriculture. Due to relatively small sample sizes, the authors of the SCO decided not to separate "big" owners from "small" ones, despite this category being strongly differentiated with respect to the businesses' sizes. As a result, owners of large companies are considered together with self-employed craftsmen. This differs the SCO from the EGP schema, in which owners were divided into those having employees and those self-employed (this division was made in the extended version of the EGP). Of course, when the sample is big enough, nothing prevents splitting the owners into minor groups based on more detailed codes of the SCO-2009. The "business owner" category includes owners of small repair outlets, shops, and cafés, who run them personally or as a family business. It also includes a specific group of self-employed owners, such as private taxicab drivers or street vendors. They differ from other owners in that they do not have strictly distinguished workplaces. Despite this, they share a common work situation, namely autonomy, freedom of work organization, independence in investments and tax responsibilities.

10.3 Analysis

The overall purpose of this section is to contribute to the validation of the EGP class schema at a national level by comparing it with the 14 classes of the Polish Social Classification of Occupations 2009.

Table 1: Validation criteria for the Social Classification of Occupations 2009

Code	Occupational category	1	2	3	4	5	N
1	Higher-level officials and managers	3999	1904	84.5	77.3	26.3	26
2	Intelligentsia: Professionals	2482	1429	83.6	70.9	25.8	89
3	Intelligentsia: Technical specialists	2261	1163	82.3	50.2	28.7	44
4	Technicians	1647	805	52.3	43.5	27.0	87
5	Administrative workers and middle-level specialists	1694	1129	76.5	53.1	20.1	218
6	Routine office workers	1245	819	69.2	30.9	23.0	81
7	Sales and service workers	1076	667	42.9	34.6	20.7	231
8	Foremen	1576	727	49.4	34.6	10.3	19
9	Skilled manual workers	1236	687	29.2	28.9	21.0	398
10	Unskilled workers in material production	962	566	24.7	26.5	19.3	90
11	Unskilled workers in services and trade	944	514	19.3	35.9	20.2	114
12	Labourers in agriculture, forestry, and fishing	1273	548	29.2	13.3	32.4	15
13	Farm owners	997	423	6.1	14.1	16.8	209
14	Business owners	2046	974	52.8	50.6	17.0	97
	Average (or total)	1403	787	43.0	36.7	20.9	1717
	Eta-squared	0.210	0.169	0.246	0.097	0.007	

Column 1: Mean individual income
Column 2: Mean family income per capita
Column 3: Percentage of the Internet users
Column 4: Percentage of those who agree that it was worthwhile to change political system
Column 5: Percentage of satisfied with life

Source: "NORPOL: the Polish-Norwegian survey of social, political and economic attitudes" conducted in Poland in 2005 by Public Opinion Research Center (CBOS). Data available on: www.ads.org.pl.

Individual income and family income are presented in Polish Zloty (PLN), opinions in percentages. In case of evaluation of the systemic change respondents were asked: "Looking back, do you think it was worthwhile changing the system in Poland?" The percentage refers to those saying "definitely yes" and "rather yes". In case of "satisfaction with life" the question was. "Are you satisfied with your life in general?" Category of the satisfied is identified by percentages of "very satisfied".

Table 2: Validation criteria for the EGP

Code	Occupational category	1	2	3	4	5	N
I	Higher service (higher-grade professionals, and officials, managers in large enterprises, large proprietors)	2680	1420	78.2	56.4	27.0	164
II	Lower service (associate professionals, lower-grade officials, lower managers, higher-grade technicians)	1653	964	71.4	50.6	23.9	316
IIIa	Routine non-manual employees (administration and commerce)	1234	824	64.9	37.7	23.3	94
IIIb	Routine non-manual employees (sales and service)	886	658	45.8	36.0	14.0	159
IVa	Small proprietors with employees	2422	1155	55.1	56.4	26.1	62
IVb	Small proprietors without employees	1811	973	36.4	42.0	20.4	76
V	Lower-grade technicians, supervisors of manual workers	1558	785	47.1	41.6	21.1	49
VI	Skilled manual workers	1151	671	25.0	27.4	22.0	215
VIIa	Semi- and unskilled manual workers (outside agriculture)	1063	580	27.0	30.1	19.2	350
VIIb	Farm workers	987	485	14.5	13.7	33.4	21
IVc	Farmers/Farm managers	1059	440	6.1	14.7	16.2	209
	Average (or total)	1406	789	42.9	36.7	21.1	1715
	Eta-squared	0.215	0.149	0.233	0.075	0.010	

Column 1: Mean individual income
Column 2: Mean family income per capita
Column 3: Percentage of the Internet users
Column 4: Percentage of those who agree that it was worthwhile to change political system
Column 5: Percentage of satisfied with life

Individual income and family income are presented in Polish Zloty (PLN), opinions in percentages. Source of data and variables are described in note below Table 1-2.

We compare how far the two class schemas capture different class outcomes. The data used here are taken from the NORPOL survey, based on face-to-face interviews in a random sample of the Polish population aged 18 or older. The analyses are restricted to respondents employed during the study. This selection provides a sample size of 1717 individuals.

Our validation tests are designed to compare both class schemas in terms of empirical consequences of classes. As Rose and Pevalin (2005: 27) pointed out, construct validity focuses on the assessment of whether a particular measure relates to other measures consistent with theoretically derived hypotheses concerning the "constructs" that are being measured. The NORPOL database permitted to develop a set of 5 validity criteria

presented in Tables 1 and 2: individual income and family income (per capita), using the Internet (yes-no), and two attitudinal measures. We begin with the individual income. Table 1 shows mean income in 14 categories of the SCO-2009, and Table 2 presents them for 11 categories of the EGP. They are represented graphically in Figure 1.

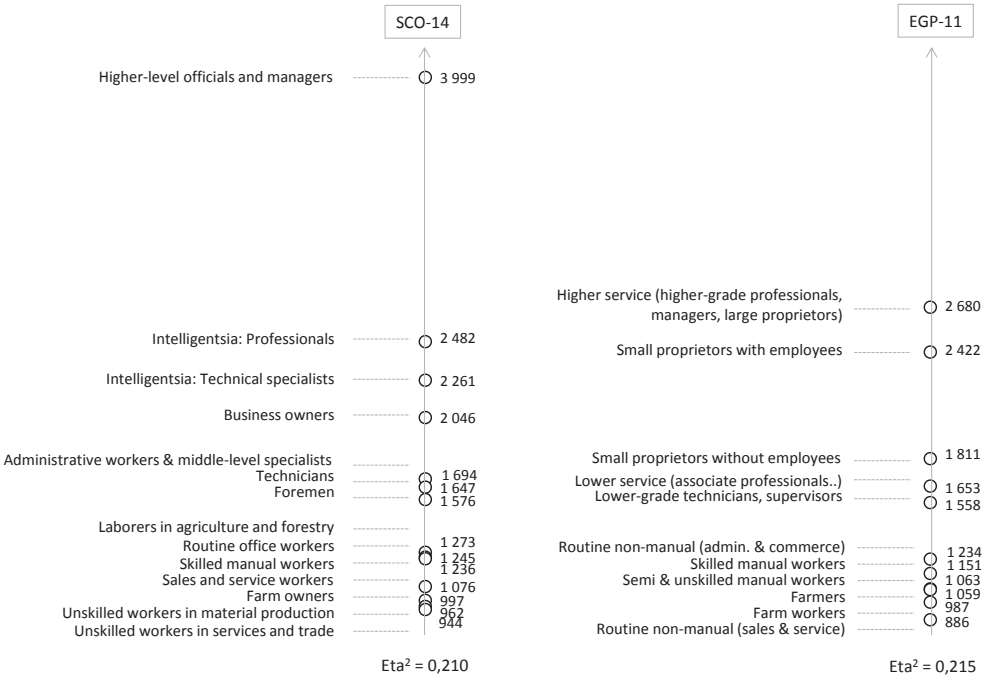


Figure 1: Mean individual income (in PLN) in the SCO-2009 and the EGP categories

Figure 1 presents the income hierarchy with categories grouped in four strata. In the case of the SCO, the top stratum includes only one category: the higher-level officials and managers. On average, they made almost twice as much as the representatives of the next layer containing "intelligentsia" and "business owners". Below them are "administrative workers of middle level", "technicians", and "foremen" who constitute the third stratum. Finally, the lowest wages are assigned to "manual" categories, alongside with routine office workers.

Thus, for the SCO-2009, this image corresponds approximately to theoretical expectations. The best paid occupational strata are predominated by high managers and professionals occasionally referred to as the upper-middle class. Nevertheless, at least in Poland, there are substantial differences between high incomes of "managers", represented here (among others) by high state officials and chief executive officers (CEO's), and lower remunerated professionals, still identified with the intelligentsia. Among the latter, incomes of engineers and teachers, who form the biggest occupational segment of specialists are especially low (Domański, Sawińskin & Słomczyński, 2009: 107). Such

small incomes can hardly be balanced by high salaries of self-employed professions, or movie stars who contribute to mean incomes of intelligentsia in a much smaller extent.

The owners are the next category below the top managers and professionals. A less favorable position of owners leads to believe that, as the determinants of high income are regarded, they are less triggered by ownership of means of production in comparison to expertise and educational credentials attributed to professionals. One must remember about the strong differentiation of this category, ranging in the SCO from owners of large companies to self-employed workers, not to mention the wide spectrum of economic fields of their activity – from software companies on the one hand to small construction firms on the other hand. Grouping all owners in one category is necessitated by a relatively small size of this group (97 cases in the NORPOL study), although the disadvantage of doing so is potentially distorting class patterns.

Next, the categories of "technicians" and "administrative workers" are located in the income ladder, followed by "foremen". The first two can be referred to, in Poland, as "semi-professionals". In terms of socioeconomic position they are close to each other, which is also reflected in a similar level of income. As we will see, there are more differences between them in other sociological dimensions that results from the nature and organization of their work, where technicians deal more with "things" while administrative workers (mostly office jobs) are more involved in working with "data". In comparison to both these categories, foremen earn slightly less, but they still are in a more advantageous position than skilled workers.

These three latter categories are clearly distinguished from the most disadvantaged SCO classes. The bottom cluster includes seven categories forming regular hierarchy where the relatively best wages are those of agricultural labourers. While this may be striking, especially bearing in mind empirical findings documenting material deprivation of this category, an explanation of the high position of agricultural labourers lies in high wages of foremen in agriculture. After agricultural labourers, the routine clerical workers occupy the next position, followed by skilled workers, sales and service, down to two categories of unskilled manual workers who are fairly fixed at the bottom.

When we turn to the EGP schema we observe that the diverse classification rules produce slight differences in the location of some categories, but the general picture of the income hierarchy is similar. Two differences, however, are noticeable. First, the gap between the least and the most favored classes is much less pronounced. It clearly results from the fact that the EGP is a more crude class variable than the SCO. Under the EGP schema category of "higher service class" are aggregated three separate top SCO "classes", which effects in lowering the mean income of this class. Thus, the EGP reduces the contrast between top classes in relation to income.

The second difference concerns owners. The EGP is more in line with theoretical expectations, according to which this heterogeneous category should be divided into "upper" and "lower" part. The substantial difference between incomes of the two confirms that EGP captures the situation of owners more adequately (see Figure 1).

Overall, one is definitely more struck by the similarities provided by both class schemas, than by the differences. Especially, consistent in both schemas is an intermediate

position of "white-collars", who, more or less, earn similarly to self-employed owners. Also, in both schemas lower clerical and manual workers are at the bottom of the pyramid of incomes.

Finally, we draw attention to values of the eta-squared, which can be considered as a quantitative measure of validity, since higher values indicate that there is more variance between classes and less variance within them (categories are more homogeneous due to the income). As may be seen, the values of eta-squared for both classifications are about equal. Both schemas are similarly associated with income and explain about 21 percent of its variance. It lends further support for the general impression that the SCO and EGP schemas are indeed alike, although fairly the same eta-squared may mask different patterns of stratification. In no case, however, can the eta-square be the only criterion of choice between them.

In the second step we compare the EGP and the SCO in relation to family income per capita. Family income is a total of incomes of all persons who live in the same household, what allows to regard this indicator as a comprehensive measure of a family's material position. A whole range of different components of family income provides more flexibility, as compared to individual incomes. For example, family income may be elevated by supplementing wages with market-based entitlements or loans. Once again, it is clear that the empirical outcomes of the two class schemas are similar, although the SCO-2009 performs slightly better than the EGP in the sense that it explains more variance in family income between classes (.169 compared to .149). On the whole, the hierarchy of family income is more flat on both schemas than that of individual incomes, what is reflected in a relatively lower eta-squared (Tables 1-2).

The next item concerns using the Internet. We expected the relationship between this measure and class position to follow the pattern where the incidence of using the internet would be higher among specialists and owners. In the latter case the Internet seems to be especially important for seeking offers, building good relations with customers, and for advertising activities.

Figure 2: Percentages of the Internet users in the SCO-2009 and the EGP categories

Using the Internet and class position are interconnected in a substantial way, which in terms of the explained variance amounts to .246 for the SCO-2009 and .233 for the EGP (Tables 1-2). A second way to assess the validity of both schemas is to compare the share of the Internet users within the SCO and the EGP classes (Figure 2). Our expectations concerning class gradients are only partly corroborated. According to the SCO, the typical effect of class position is displayed in a considerably higher share of the Internet users among "non-manual classes" than among manual categories. The highest rates are exhibited by top-level managers, specialists (from 82 to 84 percent), and administrative workers (76.5), followed by routine clerical workers (69.2). Most of them – especially the latter – apply computers in their work, and what is more, it is also easier to access the Internet in office. The routine clerical workers rank clearly above business owners, technicians, and foremen with corresponding figures of 49-53 percent. Contrary to expectations, the percentage of the Internet users among owners is lower than anticipated. This may result from the need to move between different locations in order to organize supplies of raw materials, handle matters in offices or supervise personnel working outdoors[3]. As we move to lower positions the class pattern becomes even more pronounced. The working class categories use the Internet much less than the "higher" classes. Financial reasons may be behind this, but an equally important obstacle might be the content of manual jobs that prevents using the Internet while (for example) driving vehicles or

3 In 2005, mobile internet in Poland was still hardly in use.

working in an assembly line. Finally, the lowest incidence rate is among farm owners, clearly reflecting the low density of the Internet network in the countryside.

Examining Figure 2 we see that the comparison of the SCO with the EGP indicates substantial similarities between the two class schemas. The only noticeable divergence relates to the category of owners. What was already revealed for income, the desirable feature of the EGP is the division of owners into employers and self-employed. Our analysis of the Internet users tends to confirm a strong polarization of this category, with self-employed owners having the rate at 36.4 per cent in comparison to 55.1 per cent among larger owners. In the case of many self-employed owners there is neither a need (*e.g.* kiosk owners) nor a possibility (taxi-drivers) to use the Internet while performing their jobs.

Figure 3: Percentage of those who answered "definitely yes" or "yes" in question: "Looking back, do you think it was worthwhile changing the system in Poland?" in the SCO-2009 and the EGP categories

The third validity test concerns the comparison of the EGP with the SCO in relation to selected attitudes and opinions, beginning with the support for the systemic transformation in Poland (Tables 1-2, Figure 3). Based on a range of earlier works, our hypothesis is that positive evaluations of a systemic transformation would be higher among those who benefited from the implementation of market economy. In general, the relationship between the position in the SCO-2009 and the support for the transformation follow

the anticipated pattern with higher rates of positive evaluations of systemic change among highest managers enjoying privileged positions, while on the contrasting extreme there are agricultural labourers and farmers.[4] There is some variability of these attitudes among the *intelligentsia*. Systemic changes receive higher support from non-technical intelligentsia (lawyers, medical doctors, researchers, artists, etc.) than from technical specialists. It is to discuss whether the latter could have higher aspirations that might not be fulfilled, however, from the point of view of the validity analysis more important is that this difference could be captured only by the SCO schema, as in the EGP both categories are combined together with top-managers.

The final columns in Tables 1-2 show percentages of persons who acknowledged "high" satisfaction with life. Earlier findings suggested high correlation between class membership and how people feel about their well-being (Diener & Lucas, 2000: 41 ff.). Our data has shown, however, that the differentiation of these attitudes across classes seems to be flat for both the SCO and the EGP, and eta-squared values are low and not statistically significant. It suggests that satisfaction with life does not depend on class position, regardless of which schema is chosen to measure it.

10.4 Conclusions

The main conclusion from this analysis is that the SCO and the EGP are indeed similar to each other. Neither of them works better. Although concern for the Polish context would justify a preference of the national-based measure, it does not seem that the SCO-2009 outperforms the EGP – neither with respect to explanatory power nor in valid identification of hierarchical class patterns.

Due to this, it might be asked why anyone should refer to the Polish class schema if it works in similar way to the international standard. We believe that there is at least one reason why it is sensible to use the SCO-2009. It provides users with a better discrimination between top-level classes. It seems reasonable to distinguish between three categories, namely higher-level officials and managers, non-technical specialists and technical specialists (referred to as "engineers"), who differ in terms of class position related to income, the level of control over important resources, and attitudinal variables. Our analyses do not deviate in this respect from earlier findings (Domański, Sawiński & Słomczyński, 2009: 243-245), documenting that the validity of the EGP is in this case highly limited. Consequences of aggregation of top-level occupations into one cluster may be especially severe for a valid representation of the most advantaged class, namely top managers. It should be borne in mind, however, that these class have little stake in any society. In Poland, it is only 1.5 percent. The EGP appears more effective, in turn, in the identification of owners. Having separated employers and self-employed owners is a more adequate solution than to allocate all of them into one category as the SCO does.

In this chapter, we did not evaluate the EGP as a basis for comparative research, focusing instead on its validity for national studies. Using the EGP for national purposes

4 Certainly, the most privileged category is business elite whose representatives cannot be covered by survey research.

provides researchers with an opportunity to compare their data with a wide range of data collected in inter-country projects. The disadvantage is that the EGP cannot serve for analytical purposes in nationally oriented cross-time studies, when one needs to compare national data in a long-term perspective. In Poland, for example, the EGP is not applicable to data collected between 1970s and 1990s, because they were coded only into the SCO. However, in recent years in a number of studies occupations are coded using both classifications that ensures both cross-national and cross-time comparability of data. Such solution is applied, among others, in the *European Social Survey* and in the PISA project. To summarize, we would not wish to exaggerate the differences between these two schema.

Uwe Warner

11 The 'Private Household' as a Standard Socio-Demographic Variable

In survey research, 'household' plays a number of different roles:

- First, it is used in many surveys as a sampling unit. Household addresses are drawn from lists of households; interviewers then visit the selected households to establish contact with the target persons of the survey.
- Second, as a social institution, the household has the function of imposing social order on the individual behaviour and personal orientations or attitudes of social actors.
- Third, in survey research, it is established practice to assume that respondents' characteristics can be influenced by characteristics of the household community of which he is a member. For example, the socio-economic status of the respondent is derived from the social status of the member of the household who enjoys the greatest social prestige. The personal lifestyle and the life chances of the respondent are determined by the social and economic resources of the household as a whole, for example by the total net household income.

11.1 The Household Concept in European Official Statistics

In the context of official statistics in Europe, it can be clearly seen that the national concepts underlying the respective definitions of 'household' vary greatly across states and cultures. In most European countries, the household concept has two dimensions: common housekeeping and co-residence.

Only Italy (in the European Household Budget Survey: HBS) uses an additional dimension, namely 'family or emotional ties', as a characteristic of a household.

Eurostat (European Commission, Eurostat, 2003: 4) recommended that countries should proceed as follows when measuring the income and consumption of private households in the European context (cf. Table 1):

The basic unit of data collection and analysis in Household Budget Surveys is the household. Increasingly restrictive definitions of what constitutes a household can be achieved by adding criteria from (1) to (4) below:

(1) Co-residence (living together in the same dwelling unit)
(2) Sharing of expenditures including joint provision of essentials of living
(3) Pooling of income resources
(4) The existence of family or emotional ties.

Eurostat recommends that the definition of the household for the purpose of HBS be based on the first two criteria shown above: co-residence and sharing of expenditures. This definition isolates the units, which from a HBS perspective form a whole for studying patterns of consumption expenditures and income.

As a consequence of the varying household concepts, conditions for inclusion or exclusion as household members differ from country to country. In Italy, family or emotional ties between members are what constitutes a household. Hence, persons with whom no emotional ties exist are excluded from household membership. However, in other countries whose notion of household does not include this emotional element, persons who do not belong to the family may well be household members (see Table 1).

Table 1: Defining characteristics of 'household' in European Household Budget Surveys (HBS)

	Household defined as a group of persons who share			
	dwelling unit	expenditures	income resources	emotional ties
BE	X	X		
DK	X	X	X	
DE	X	X	X	
GR	X	X		
ES	X	X		
FR	X			
IE	X	X		
IT	X	X	X	X
LU	X	X		
NL	X	X		
AT	X	X		
PT	X	X		
FI	X	X	X	
SE	X	X	X	
UK	X	X		

Source: European Commission, 2003: Household Budget Surveys in the EU, p.17

A closer look at the various conditions for inclusion as household members employed in the censuses of the EU member states (see Table 2) reveals a richly varied picture. In the censuses, too, four dimensions can be identified in the national household concepts: (1) common housekeeping in the financial sense (2) common housekeeping in the organisational sense (3) co-residence, and (4) family. The categories for the operationalization of the household concept in surveys can be subsumed under these four dimensions.

The census[1] in *Italy* defines 'household' in terms of family or emotional ties: The term household refers to: "A group of people, bound by marriage, kinship, affinity, adoption, guardianship or by emotional ties, who are partners and live in the same Municipality (even if still not registered in the Population Register residing in that Municipality). A household may also be composed of one individual only" (National Institute of Statistics, 2001).

1 Hoffmeyer-Zlotnik and Warner (2009) provide a detailed overview of the national household concepts used in the census by the EU member states, Norway and Switzerland.

Table 2: Conditions for inclusion as household members in the European Household Budget Surveys (HBS)

	Persons included in the definition of private household							
	persons usually resident	servants au-pairs	lodgers	longterm absentees	visitors	Tempo-rary absentees	students	Hospital-lised persons
BE	X						X	X
DK	X					X		
DE	X					X	X	
GR	X			X	X	X	X	X
ES	X				X	X	X	X
FR	X	X	X	X		X	X	X
IE	X	X	X			X	X	X
IT	X							
LU	X					X	X	X
NL	X	X	X	X	X	X	X	X
AT	X			X	X	X	X	X
PT	X	X	X			X	X	X
FI	X					X	X	X
SE	X					X		
UK	X				X		X	

Source: European Commission, 2003: Household Budget Surveys in the EU, p.18

In *Denmark*, persons who are registered under the same address in the population register constitute a household (Statistics Denmark, 2001).

In its 1997 microcensus, *Germany* uses categories 1.1 and 3.1 (see Table 3) to define a household: 'A household is a group of persons who live and keep house together, i.e. who share meals and living expenses. A person living alone forms a household' (Statistisches Bundesamt, 1997; our translation). The 2004 microcensus (Statistisches Bundesamt, 2005: 11ff.) also emphasises 'living together' and 'economic unit' as dimensions of the definition:

> "A (private) household is any group of persons who live together and constitute an economic unit (multiperson household) or any person who lives and manages the household alone (single-person households, for example single subtenants). Related and unrelated persons (for example domestic staff) may belong to the household. Collective and institutional dwellings are not deemed to be households. However, they may accommodate private households (for example the household of the director of the institution). Households with several dwellings may, under certain circumstances, be counted more than once (see Population in Private Households). Several relationship types (for example a married couple without children and a single mother with two children) may be present in one household."

England defines household with the help of categories 3.3 and 2.4a or 2.2 (see Table 3) as:

> "(a) a person living alone; or (b) a group of people (who may or may not be related) living, or staying temporarily, at the same address, with common housekeeping. ... enumerators were instructed to treat a group of people as a household if there was any regular arrangement to share at least one meal (including breakfast) a day or if the occupants share a common living or sitting room" (United Kingdom, 1991: Article 3.11 und 3.12).

In its census, *France* defines household in terms of a shared dwelling unit (Category 3.2):

> "Un ménage (ou encore 'ménage ordinaire'), au sens de l'enquête de recensement, désigne l'ensemble des personnes qui partagent la même résidence principale sans que ces personnes soient nécessairement unies par des liens de parenté (en cas de cohabitation, par exemple)" (INSEE, 2011).

Romania and *Slovenia* define household for the purposes of the census in terms of Category 3.1 and Category 1.2 of Table 3:

> "A private household (household) is a group of people living together and sharing their income for covering the basic costs of living (accommodation, food, other consumer goods, etc.) or a person living alone" (Statistični Urad Republike Slovenije, 2011; see also: IECM and IPUMS, 2006.)

The *Czech Republic* uses a definition of household that emphasises the co-residence (Category 3.2) and shared expenses (Category 1.3) aspects. The household questionnaire for the 2001 Census explains that common housekeeping means that "the main costs of the household (food, living costs, operational costs and others) are paid for jointly" (Czech Statistical Office, 2003).

In *Hungary* Categories 1.4 and 3.1 apply:

> "A (private) household is a group of persons living together in a common housing unit or in a part of it, bearing together, at least partly, the costs of living (i.e. daily expenses, meals). Persons living in the same dwelling but on the basis of independent tenure status, are not considered as persons living in the same household even if the above conditions are fulfilled" (Hungarian Central Statistical Office, 2010: Household).

Few census questionnaires help respondents by specifying the categories of persons that constitute a household. The questionnaire of the 2001 Census of Population in England requested the householder to list all members of the household. It named a number of categories of persons whose household membership was not immediately obvious but who were nonetheless to be included as household members:

Table 3: Operationalization of private household in the censuses: dimensions and categories

	Dimension	Category
1	Common housekeeping – financial	
1.1		common budget
1.2		share income
1.3		share expenses
1.4		share living costs (in whole or in part)
1.5		contribute jointly to cost of essentials of living
2	Common housekeeping – organisational	
2.1		common housekeeping: 'constitute economic unit'
2.2		share living room or sitting room
2.3		share food
2.4		joint meals a) daily, b) at least once a week
2.5		common living arrangements
3	Co-residence	
3.1		live together
3.2		share dwelling
3.3		have the same address
3.4		the same address in the population register
3.5		the address at which most nights are spent
4	Family	
4.1		degree of legal relationship by blood, marriage, adoption or guardianship
4.2		emotional ties

Source: Hoffmeyer-Zlotnik und Warner, 2008: 19-20.

"List all members of your household who usually live at this address, including yourself.

- Start with the householder or joint householders.
- Include anyone who is temporarily away from home on the night of 29 April 2001 who usually lives at this address.
- Include schoolchildren and students if they live at this address during school, college or university term.
- Also include schoolchildren and students who are away from home during the school, college or university term and for whom only basic information is required.
- Include any baby born before 30 April 2001, even if still in hospital.
- Include people with more than one address if they live at this address for the majority of time.

- Include anyone who is staying with you who has no other usual address.
- Remember to include a spouse or partner who works away from home, or is a member of the armed forces, and usually lives at this address (National Statistics, 2001)."

11.2 Influence of the Definition of Household on Core Socio-Economic Variables

In social science studies, characteristics of the household, or of one member of the household, are frequently assigned to its members. For example, the socio-economic status of all household members is determined by the person whose job enjoys the highest social prestige. In addition, the level of wealth of each household member is determined by the equivalised household income. Both characteristics vary according to the underlying household concept because household composition is determined by the criteria that constitute this concept. The status-defining member in one household concept may be excluded from the household if another concept is applied; the sum of the incomes of the household members can changes as the number of household members change across definitions.

The following fictional, but enlightening, example of the application of different European population census definitions of household to an extended family comprising ten persons shows how in social science analyses socio-economic status and net household income depend on the household concept employed (see also Table 4).

The group of ten related persons comprises:

- a married couple (grandfather and grandmother),
- with two adult sons (uncle, father),
- one of whom is married (mother) and has three children (child no. 1, child no. 2, child no. 3),
- the eldest of these children (daughter), is also married (son-in-law) and has a child (grandchild).

Several members of this extended family are working and contribute income to the household:

- The grandfather works as an assembler of wood products (ISCO-88 code 8285), which has an International Socio-Economic Index (ISEI) value of 30. The grandfather's net monthly income amounts to 1.800 euros.
- The grandmother is not working and does not, therefore, have an income of her own.
- The father works as a civil engineering technician (ISCO-88 code 3112, ISEI = 45) and has a net monthly income of 2,500 euros.
- At the moment, the mother is only marginally employed as a handicraft worker in wood (ISCO-88 code 7311, ISEI = 29). She earns 500 euros a month;
- The uncle earns 1,500 euros a month as a cabinet maker (ISCO-88 code 7422, ISEI = 33);
- Child no. 1 is an adult married daughter who does not have a job.

- The son-in-law is a civil engineer (ISCO-88 code 2142, ISEI = 69). He has a net monthly income of 2,500 euros.
- The grandchild is a baby.
- Child no. 2 is studying. She has a scholarship of 1,000 euros per month.
- Child no. 3 is under 14 and is still at school. This child is assigned 'income' of a total of 600 euros per month comprising child benefit and the pocket money he earns delivering newspapers.

The extended family is spread across four dwellings:

- The grandparents live in a separate apartment in the same house and with the same address as the father and the mother.
- The father and mother live in an apartment with child no. 3.
- The father works in another city and comes home only at the weekends. During the week he lives in a small apartment.
- Child no. 1 lives with her husband (son-in-law) and their child (grandchild) in an apartment near where her parents live.
- Child no. 2 lives in in a student residence at her place of study.
- The uncle has his own apartment in the same town as the grandparents but in a different quarter.

Table 4: **Fictional ten-person group and the socio-demographic characteristics of its members**

Person	Address	Dwelling	ISCO-88	Personal Income
Grandfather	A	2	8285	1,800
Grandmother	A	2		0
Father	weekends: A	1	3112	2,500
	weekdays: B	4		
Mother	A	1	7331	500
Uncle	D	3	7422	1,500
Child no. 1	E	6		400
Son-in-law	E	6	2142	2,500
Grandchild	E	6		0
Child no. 2 (student)	holidays: A	1		1,000
	term time: C	5		
Child no. 3 under 14 years of age	A	1		600

The application of the national definitions of household used in the censuses in six EU member states Italy, Denmark France, Luxembourg, and England (on behalf of the

UK) to the fictional extended family yields six different household configurations (see Hoffmeyer-Zlotnik & Warner, 2008: 58):

The *Italian* definition of household in the census assumes that those who are emotionally included in the family belong to the same household, irrespective of whether they live in the same dwelling or have a common address. Hence, the ten persons constitute *one household* spread across four dwellings (the secondary residences of the father and of child no. 2 are not included).

The *Danish* definition includes in the household all persons registered at the same address. Because the extended family is spread across three addresses, it comprises *three households*. In the present example, one household comprises six persons: the grandparents in the 'granny flat'; the mother and the father because the family home is registered as the father's principal residence; child no. 3, who lives with his parents; and child no. 2 (the student) whose principal residence is not the student residence but the family home.

The *French* census definition of household distributes the extended family across *four households*, one of which comprises the father and mother, child no. 2, and child no. 3.

Luxembourg's census, which restricts household membership to those living in the same dwelling, distributes the extended family across *five households*. Mother, father and child no. 3 constitute a household – child no. 2 is excluded.

Table 5: Application of selected national household concepts to fictional ten-person group

		Italy		Denmark		France		Luxembourg		England	
Person	ISCO-88	HH	ISEI	HH	ISEI	HH	ISEI	HH	ISEI	HH	ISEI
Uncle	7422	HH1	33	HH1	**33**	HH1	**33**	HH1	**33**	HH1	**33**
Grandfather	8285		30	HH2	30	HH2	**30**	HH2	**30**	HH2	**30**
Grandmother											
Father	3112		45		**45**	HH3	**45**	HH3	**45**	HH3	**45**
Mother	7331		29		29		29		29	HH4	**29**
Child no. 3	pupil										
Child no. 2	student							HH4	**45***	HH5	**45***
Child no. 1				HH3		HH4		HH5		HH6	
Son-in-law	2142		**69**		**69**		**69**		**69**		**69**
Grandchild	baby										

* Because child no. 2 is still at university, her socio-economic status is determined by that of her father. The ISEI values in bold represent the socio-economic score assigned to all the members of the respective household.

On the one hand, the criterion 'daily shared meal' in *England's* definition of household restricts household size considerably. However, the use of the criterion 'same address' instead of 'same dwelling unit' makes the definition broader. As a result, several possible configurations are conceivable in the present case. The family actually consists of *six*

households, with the core household comprising two persons, the mother and child no. 3. However, if the mother regularly cooks for the grandparents, then the core household could be a four-person household spread across two dwelling units at the same address. The English census offers 'common living or sitting room' as an alternative to the 'shared meal' criterion. If one availed of this alternative, the father could be reintegrated into the core household. However, the grandparents would then constitute a household of their own (see Table 5).

As the concepts of household change across countries, so too does the size of the household and the number of adults, children and income recipients in the household. A person's respective position in a household [(e.g. main earner)] determines the needs weight assigned to him when computing equivalised household income (see Table 6).

Hence the basis for the calculation of the income that describes the level of wealth of individuals in society varies according to the national household concept (see Table 7). For illustration purposes, the OECD-modified equivalence scale is applied in Table 7. This scale assigns a value of 1 to the first household member (usually the main earner or income recipient), a value of 0.5 to the second and each subsequent person aged 14 and over, and a value of 0.3 to each child under the age of 14.

Table 6: Selected National Household Concepts and Equivalence Scales

		Equivalence Scale							
Person	Personal Income	Italy		Denmark		France		England	
Uncle	1,500	HH1	0.5	HH1	1.0	HH1	1.0	HH1	1.0
Grandfather	1,800		0.5	HH2	0.5	HH2	1.0	HH2	1.0
Grandmother	0		0.5		0.5		0.5		0.5
Father	2,500		1.0		1.0	HH3	1.0	HH3	1.0
Mother	500		0.5		0.5		0.5	HH4	1.0
Child no. 3	600		0.3		0.3		0.3		0.3
Child no. 2	1,000		0.5		0.5		0.5	HH5	1.0
Child no. 1	400		0.5	HH3	0.5	HH4	0.5	HH6	0.5
Son-in-law	2,500		0.5		1.0		1.0		1.0
Grandchild	0		0.3		0.3		0.3		0.3

Table 7: Selected National Household Concepts and Equivalised Household Income

	Equivalised Household Income			
	Italy	Denmark	France	England
HH1	2,117	1,500	1,500	1,500
HH2		1,940	1,200	1,200
HH3		1,611	2,000	2,500
HH4			1,611	846
HH5				1,000
HH6				1,611
Average	2,117	1,684	1,577	1,443

11.3 The Definition of Private Household in the ESS

The thought experiment conducted before confirmed that the different definitions of household used in national censuses produce different household compositions. It also confirmed that the results of sociological analyses, socio-economic calculations of household income, and the calculation of equivalised household income depend on the concept of household on which the measurement is based. Hence it is evident that cross-national comparison is possible only if the same variable is measured with a comparable concept and a uniform, transparent definition of household in each country.

It cannot be assumed that interviewers and respondents have the same notion of what constitutes a household. In order to achieve comparability across countries, the European Social Survey (ESS) input harmonises the collection of household data. The ESS Central Coordinating Team requires the national coordinators and survey institutes to use a uniform definition of 'household' during data collection. This uniform definition is formulated in the fieldwork instructions (European Social Survey, 2002c: 11):

> "One person living alone or a group of people living at the same address (and have that address as their only or main residence), who either share at least one main meal a day or share the living accommodation (or both). Included are: people on holiday, away working or in hospital for less than 6 months; school-age children at boarding school; students sharing private accommodation. Excluded are: people who have been away for 6 months or more, students away at university or college; temporary visitors".

The first household-related question in the source questionnaire (European Social Survey, 2002a) reads:

> "And finally, I would like to ask you a few details about yourself and others in your household.

F1 Including yourself, how many people – including children – live here regularly as members of this household?

Write in number: _____".

Question F1 asks about 'the number of people ... who live here regularly as members of the household'; it reminds the respondent that children should be included and that he should not forget to include himself. However, it does not include a definition of household, nor is the definition that was provided in the fieldwork instructions read out to respondents.

It is striking that the proposed survey question (F1) is closely aligned to the definition used in England's census of population in which 'household' was operationalized using the criteria 'same address', 'share at least one meal a day' or 'share a common living or sitting room', and a list of persons to be included and excluded was provided.

In *Germany,* the ESS household composition question is phrased as follows: 'Wie viele Personen leben ständig in diesem Haushalt, Sie selbst eingeschlossen? Denken Sie dabei bitte auch an alle im Haushalt lebenden Kinder.' (Our translation: How many people, including yourself, live here permanently? Please include any children living in the household.) The time reference was changed from 'regularly' to 'permanently' and the reference to household membership was omitted.

The ESS coordinators in *German-speaking Switzerland* use their own translation of the question in the source questionnaire. What is striking here is that 'live here regularly as members of this household' is translated as 'live regularly as members of your household': 'Wenn Sie sich selbst dazuzählen, wie viele Personen – Kinder eingeschlossen – leben regelmäßig als Mitglieder in Ihrem Haushalt? (Our translation: Including yourself, how many people – including children – live regularly as members of your household.)

In *French-speaking Switzerland*, by contrast, the question is translated as follows: 'Combien de personnes, vous même et les enfants y compris, vivent régulièrement comme membres de votre ménage?'

In *Italian-speaking Switzerland*, the 'household' is translated as 'economia domestica': 'Quante persone, i bambini e Lei inclusi – vivono qui regolarmente, quali membri della Sua economia domestica?'

The definition of household on which question F1 of the ESS is based in *Italy* is not the same as that used in Italian-speaking Switzerland insofar as Italy translates 'household' as 'famiglia' rather than 'economia domestica': 'Compresi Lei ed eventuali bambini, quante persone vivono regolarmente in questa casa come membri della famiglia?'

Luxembourg also fields the ESS questionnaire in German, however, simply adopt Germany's translation of Question F1: 'Wie viele Personen leben ständig in diesem Haushalt, Sie selbst eingeschlossen? Denken Sie dabei bitte auch an alle im Haushalt lebenden Kinder.'

The *French-language* version of Question F1 used by bilingual *Luxembourg* comes very close to the French-language wording used by the trilingual Swiss, although respondents in Luxembourg are reminded to include 'your children' rather than 'the children': 'Y compris vous-même – et vos enfants – combien de personnes vivent ici de façon régulière comme membres de votre ménage?'

However, the *Portuguese-language* question for *Luxembourg's* largest minority poses problems: 'Incluindo-o(a) a si e aos seus filhos – quantas pessoas residem aqui de forma regular como membros do seu agregado?'

Here, a central element of the definition deviates even from the text used in *Portugal*: 'Contando consigo, quantas pessoas – incluindo crianças – vivem habitualmente nesta casa?' (ESS, 2002e.: Question F1).

National fieldwork instructions for the ESS in Portugal emphasise the family unit, as in the case of Italy:

> "As perguntas F1, F2 , F3 e F4 permitem identificar a composição do agregado familiar. Note que aqui as crianças devem ser incluídas ao contrário da folha de contacto onde só se referiam as pessoas com mais de 15 anos. Ou seja, pretende-se aqui identificar a idade, o sexo e a relação de parentesco de todas as pessoas que vivem no agregado familiar. Note ainda que em cada coluna se regista o laço familiar partindo do inquirido. Por exemplo, se a pessoa mais velha no lar é o pai da inquirida, ele deve constar na coluna 2 e deve ser registado como laço familiar na linha pai/mãe.... Não devem ser incluídas nesta grelha as empregadas domésticas" (ESS, 2002d: 10).

The country-specific implementation of a master question that is supposed to be implemented uniformly in each country confronts respondents with a considerable number of different question stimuli. It must be assumed that the different stimuli in the respective countries evoke different responses. The time references given in the national field instructions are 'regularly', 'normally' 'permanently', and 'usually'. The national questionnaires also use different terms to translate 'household' in their national questionnaires, for example 'household', 'dwelling', 'economic unit', and 'family'.

The different question wordings are reflected in the data of the first round of the ESS (ESS1). A comparison of national ESS1 figures for the number of persons in the household with the figures from the eighth wave of the European Community Household Panel (ECHP8)[2], in which the ECHP8 figures serve as the expected values, yields clear national differences (see Table 8). In Italy, for example, the ESS measures 'household' in terms of family members. As the everyday notion of a family involves at least two related persons of different generations, it is not surprising that the number of one-person households was underestimated in Italy. Although the ECHP8 data lead one to expect approximately 21% one-person households in Italy, merely 8.7% of ESS respondents in that country reported living in a one-person household[3].

2 This wave of the ECHP was grossed up using the average weight so that the distributions correspond to the nationally representative frequencies of household sizes in the year 2001.

3 24,9 % of the respondents in the 2001 census in Italy lived in one-person households. The average household size was 2.6 persons.

Table 8: Household structures in selected countries

Denmark

Persons in Household	ESS1 cumulated %	ECHP8 cumulated %	Household Composition	ESS1 %	ECHP %
1	18.0	25.2	1 adult, no children	18.4	25.2
2	59.5	64.0	1 adult and children	2.9	1.7
3	76.1	79.6	2 adults, no children	40.3	37.8
4	91.3	93.1	2 adults and children	25.6	24.0
5 and more	100.0	100.0	at least 3 adults, no children	6.9	6.3
Average	2.63	2.40	at least three adults and children	5.9	5.1

France

Persons in Household	ESS1 cumulated %	ECHP8 cumulated %	Household Composition	ESS1 %	ECHP %
1	12.6	25.1	1 adult, no children	12.6	25.1
2	43.8	55.7	1 adult and children	2.5	2.6
3	63.0	73.4	2 adults, no children	30.9	29.0
4	84.2	92.1	2 adults and children	32.3	23.3
5 and more	100.0	100.0	at least 3 adults, no children	11.5	13.6
Average	3.05	2.56	a least 3 adults and children	10.1	6.5

Luxembourg

Persons in Household	ESS1 cumulated %	ECHP8 cumulated %	Household Composition	ESS1 %	ECHP %
1	14.0	27.1	1 adult, no children	14.0	27.1
2	32.7	58.5	1 adult and children	2.5	1.5
3	53.3	76.0	2 adults no children	19.9	30.4
4	83.3	91.9	2 adults and children	35.5	22.8
5 and more	100.0	100.0	at least 3 adults, no children	16.0	13.0
Average	3.25	2.50	at least 3 adults and children	12.2	5.2

Germany

Persons in Household	ESS1 cumulated %	ECHP8 cumulated %	Household Composition	ESS1 %	ECHP %
1	19.9	38.5	1 adult, no child	19.9	38.5
2	55.7	63.2	1 adult and children	3.2	2.2
3	74.3	78.5	2 adults, no child	35.0	23.3
4	91.8	93.2	2 adults and children	22.8	15.9
5 or more	100.0	100.0	at least 3 adults, no children	11.7	13.8
Average	2.63	2.30	at least 3 adults and children	7.5	6.3

England

Person in Household	ESS1 cumulated %	ECHP8 cumulated %	Household Composition	ESS1 %	ECHP %
1	18.7	31.1	1 adult, no children	18.7	31.1
2	53.7	64.6	1 adult and children	3.6	4.7
3	73.0	79.8	2 adults, no children	34.1	31.6
4	90.5	93.6	2 adults and children	22.4	19.5
5 or more	100.0	100.0	at least 3 adults, no children	14.6	9.0
Average	2.68	2.33	at least 3 adults and children	6.6	4.2

Italy

Persons in Household	ESS1 cumulated %	ECHP8 cumulated %	Household Composition	ESS1 %	ECHP %
1	8.7	21.4	1 adult, no children	8.8	21.4
2	31.4	43.9	1 adult and children	1.0	1.1
3	56.4	65.8	2 adults, no children	21.9	21.8
4	86.0	88.2	2 adults and children	22.4	20.5
5 or more	100.0	100.0	at least 3 adults, no children	31.8	26.3
Average	3.21	2.86	at least 3 adults and children	14.1	9.0

Any household member under the age of 18 is referred to as a 'child'. 'And children' means at least one child. Source: ESS Round 1 and ECHP Wave 8, own calculations.

11.4 The Instrument for a Standard Measurement of Household Size

In social science surveys, it cannot be assumed that the survey researchers who design and conduct the survey, the interviewers, the respondents, and the researchers who analyse the survey data share a common concept of household.

A cross-national comparison of European countries reveals that, here too, culture-specific differences are in evidence and that they are reflected in the wording of the survey questions. In the countries to be compared, these different household measures produce household sizes and compositions that are based on different concepts. It is an essential prerequisite for cross-national comparison that like be compared with like. Hence, because the measurements differ from country to country, the national measurement instruments and household measures must be harmonised.

The concept of household is of central importance in the social sciences because, as a rule, household members share the same socio-economic status and social background; to a greater or lesser extent they make decisions together – including decisions regarding household expenditures, moving house or migration; and they tend to have more or less similar attitudes, norms, and values.

In an ageing society, households play a very important role when it comes to sharing responsibility for older household members, providing medical care, and practising solidarity between the generations so that financial burdens are fairly distributed. These mutual relationships between the household members must be reflected in the concept and definition of household. For the social sciences, therefore, a household concept that is based on the principle of common housekeeping in the financial and organisational sense with mutual rights and obligations is expedient:

> "1.448. The concept of household is based on the arrangements made by persons, individually or in groups, for providing themselves with food and other essentials for living. A household may be either
>
> (a) a one-person household, that is to say, a person who makes provision for his or her own food and other essentials for living without combining with any other person to form a multi-person household or
>
> (b) a multi-person household, that is to say, a group of two or more persons living together who make common provision for food and other essentials for living. The persons in the group may pool their resources and may have a common budget; they may be related or unrelated persons or constitute a combination of persons both related and unrelated.
>
> 1.449. The concept of household provided in paragraph 1.448 is known as the 'housekeeping concept'. It does not assume that the number of households and housing units are or should be equal. A housing unit, as defined in paragraph 2.418., is a separate and independent place of abode that is intended for habitation by one household, but that may be occupied by more than one household or by a part of a household (for example, two nuclear households that share one housing unit for economic reasons or one household in a polygamous society routinely occupying two or more housing units" (United Nations, Department of Economic and Social Affairs Statistics Division, 2008: 100).

The definitions of private household in the population censuses in the selected six countries differ considerably. Hence they provide an overview of the range of criteria employed. Denmark uses the address, and France the dwelling unit, as the central element for the operationalization of private household. In addition to the spatial character-

istic (address or dwelling), Germany, England, and Luxembourg use common housekeeping as a further distinguishing feature, while Italy defines private household in terms of the family

Denmark: *Registered at the same address* means: Depending on the size and partitioning of the house, there can be several dwelling units at the same address:

several dwelling units = 1 household,
connecting element is the common address,
the number of persons can be large,
absent school-going children, students and seasonal workers are to be included.

France: Share dwelling unit means that household is limited to a dwelling unit. All those residing in the dwelling unit are assigned to the household. Because the defining criterion is the dwelling unit door, the French household cannot reach the size of its Danish counterpart. However, as in Denmark, France does not distinguish between a partitioned dwelling rented out room by room and a dwelling-share with common housekeeping:

one dwelling unit = 1 household,
connecting element is the common dwelling unit,
the number of persons does not have to be limited to members of the same economic unit.

Luxembourg: Share a dwelling unit and have common housekeeping means that household is first of all restricted to the dwelling unit and, within the dwelling unit, it is further restricted to a group who makes common provision for food and other essentials for living. The persons in the group may pool their income. Hence, one dwelling unit may accommodate several households:

one dwelling unit = 1 to n households,
connecting element is the subjective feeling of belonging to a household community within the dwelling unit,
although the number of persons is limited by the dwelling unit and common housekeeping criteria, it is not clear-cut.

Germany: Living together and common housekeeping means that household is first of all restricted to a dwelling unit and within that unit to an economic unit. Hence one dwelling unit can accommodate several households:

one dwelling unit = 1 to n households,
connecting element is common housekeeping within the dwelling unit,
the number of persons is narrowly defined by the dwelling unit and economic unit criteria.

England: Living at the same address with common housekeeping means that household is first of all restricted to an address. This address may comprise several dwelling units. Household is then limited to common housekeeping, which is operationalized as a daily shared meal or a common living or sitting room. A daily shared meal presupposes common housekeeping and a regular daily routine. What connects the household members is not the common dwelling unit door but rather a shared regular daily routine. Hence

the private household can be spread across several dwelling units as long as the various dwelling unit doors do not hamper regular common housekeeping:

one to n dwelling units = 1 household,
connecting element is regular common housekeeping at a common address,
the number of persons is narrowly limited by the 'same address' and 'shared daily meal' or 'shared living or sitting room' criteria.

Italy: The family irrespective of whether it lives in a common dwelling unit means that family is defined solely via family ties based on blood, adoption, or marriage. The connecting element is the emotional bond or financial dependence, neither or which is measured. As a rule, 'family' implies spatial proximity and is based on the idea of the atrium, in the figurative sense of living together in the immediate vicinity:

One to n dwelling units = 1 household,
the connecting element is the emotional bond or financial dependence,
the number of persons is very open-ended because it is a matter of subjective definition and possible distribution across different dwelling units.

In order to be suitable for use as a standard measure of household as a socio-demographic variable in cross-national comparative surveys, an instrument must also capture this relationship between address, dwelling unit and the group of persons with common housekeeping. Therefore, the standard instrument also takes into account the number of dwelling units and the distribution of the household members across these dwelling units.

A social-science survey instrument that aims to collect data on the respondent's household must explain the underlying household concept to him. An instrument that is understandable across cultures must convey the concept of household as a housekeeping concept, i.e., as an aggregate of common housekeeping in the financial and organisational sense with mutual rights and obligations. The household concept is integrated in the question and is therefore known to the interviewer, the respondent, the researcher who collects the data, and the scientist who analyses them.

Because household membership is not self-explanatory, respondents are given a list of categories of people to be included in the household. This list first gives all those who are frequently forgotten, for example children – especially babies – and the respondent himself. Moreover, persons who are temporarily absent because of education/training or work, or persons who are temporarily away from the household because of illness, leisure pursuits or other reasons, are listed and are thereby assigned to the household. The maximum permissible length of absence – 6 months – is based on the period used in many countries' definitions. Then, resident domestic staff, au-pairs, nursing staff, and care-givers are classified as household members. All family members or former household members who live in collective accommodation are excluded, as are all those who have been absent for longer than six months and persons who are present temporarily, such as visitors. This list represents a massive intervention in the definition in the sense that temporarily absent persons are re-assigned to the household. Nonetheless, only a

definition such as this, which can be accepted in as many cultures as possible, allows for comparative analysis.

Finally, we endeavour to assign the persons listed by the respondent to dwelling units because the household definition is not always restricted to one dwelling. So-called self-contained 'granny flats', which are used by parents or children, are frequently encountered. In view of the 'dwelling unit door' criterion, these flats should be regarded as separate dwelling units.

However, weekend commuters and students who have an additional dwelling at their place of work or study, are also included in the central household. This can lead to a problem in the definition of the population universe on the basis of the resident population because in such a case weekend commuters or students can be encountered at two locations and be counted twice. Many surveys expressly accept this double count. However, this point can be clarified only via an appropriate definition of the survey population.

Because it is based on a concept for the measurement of household that is common to all countries, the measurement instrument proposed here is an input-harmonised survey instrument. Despite the difficulty of adequately translating 'housekeeping' into the respective national languages, professional translators – in collaboration with survey researchers – can produce a functionally equivalent translation of the source questions, thereby ensuring that a comparable variable is measured in each culture that participates in the survey. However, especially in countries, such as Italy and Portugal, in which 'household' is less housekeeping oriented than elsewhere, this calls for forward-looking pretests guided by the underlying household concept.

Information on the respondent's household and the relationship between the household and the dwelling units is collected using four survey questions. The list of categories of people to be included in the household ensures that both inclusion and exclusion rules are applied. However, this list can be adapted to the theoretical guidelines of each empirical project and to the research question by modifying the categories of people to be counted, without, however, changing the underlying household concept.

Uwe Warner

12 'Total Net Household Income' as Demographic Standard Variables for Social Surveys

In academically driven social surveys, income is an indicator of the socio-economic status. It is used as an explanatory variable in mobility studies and as a social-demographic background item in inequality research. In most cases, information about the income brackets in which the net household income is located is usually enough for a comparative analysis of social structure because the respondent's socio-economic position is determined by his access to the monetary resources of the household in which he lives. Frequently, different questions are formulated for the various sub-populations information is requested about different income resources. For example, the households of self-employed persons are surveyed using an adapted version of the income question. The reduction of the rate of non-response to the sensitive, open-ended income question often succeeds by presenting the respondent with a list of income categories in which each category has a randomly generated code letter. The fact that the code letters are not in any order gives both sides – the respondents and the interviewers – the impression that the interviewer cannot deduce the level of income from the response.

In the following sections, we shall compare and contrast two instruments for the measurement of income: the first was used in Round 1 of the European Social Survey (ESS) to measure net household income; the second was used in Round 4 of the ESS.

12.1 Measurement Instrument Used in Round 1 of the ESS for the Cross-National Comparison of Household Income

The questionnaire used in Round 1 of the European Social Survey (2002a) features two questions designed to measure household income. The first question (F29) asks the respondent to state the main source of income in his household; the second question (F30) aims to identify the income category to which the household's total net income belongs. To this end, the respondent is requested to 'add up the income from all sources'. However, in this pan-European survey, the randomly selected respondents are not given any detailed background information or explanations of the questions. Hence it is not clear to them which income – and whose income – they should add up. Nor are they given any help in recalling the various possible types of income accruing to the household.

Because the interviewees are randomly selected from among all the members of the household aged 16 or over, and only the target person is interviewed, respondents' knowledge of the financial situation of the household as a whole varies depending on the cohort to which he belongs and his position in the household or his relationship to the main earner/income recipient.

The ESS question about the main source of income in the household reads:

> "F29 CARD 55 Please consider the income of all household members and any income which may be received by the household as a whole. What is the main source of income in your household? Please use this card" (European Social Survey, 2002a: 49).

The showcard lists seven types of income:

> Wages or salaries; Income from self-employment or farming; Pensions; Unemployment/ redundancy benefit; Any other social benefits or grants; Income from investment, savings, insurance or property; Income from other sources (ESS, 2002b: CARD 55).

Then the respondent is asked about the total net income of the household:

> "F30 CARD 56 Using this card, if you add up the income from all sources, which letter describes your household's total net income? If you don't know the exact figure, please give an estimate. Use the part of the card that you know best: weekly, monthly or annual income" (European Social Survey, 2002a: 47).

CARD 56				
YOUR HOUSEHOLD INCOME				
	Approximate WEEKLY	Approximate MONTHLY	Approximate ANNUAL	
J	Less than €40	Less than €150	Less than €1800	J
R	€40 to under €70	€150 to under €300	€1800 to under €3600	R
C	€70 to under €120	€300 to under €500	€3600 to under €6000	C
M	€120 to under €230	€500 to under €1000	€6000 to under €12000	M
F	€230 to under €350	€1000 to under €1500	€12000 to under €18000	F
S	€350 to under €460	€1500 to under €2000	€18000 to under €24000	S
K	€460 to under €580	€2000 to under €2500	€24000 to under €30000	K
P	€580 to under €690	€2500 to under €3000	€30000 to under €36000	P
D	€690 to under €1150	€3000 to under €5000	€36000 to under €60000	D
H	€1150 to under €1730	€5000 to under €7500	€60000 to under €90000	H
U	€1730 to under €2310	€7500 to under €10000	€90000 to under €120000	U
N	€2310 or more	€10000 or more	€120000 or more	N

Figure 1: Household income showcard, ESS2002

The ESS Project Instructions features the following interviewer instruction regarding the definition of 'net income'. However, this information is not intended for the respondent.

> "At HINCTNT you should obtain the **total net income** of the household from all sources, that is, **after tax**. Income includes not only earnings but state benefits, occupational and other pensions, unearned income such as interest from savings, rent, etc.
>
> We want figures **after** deductions of income tax, national insurance, contributory pension payments and so on. The questions refer to **current level** of income or earn-

ings or, if that is convenient, to the nearest tax or other period for which the respondent is able to answer. The respondent is given a showcard that enables them to choose between their weekly, monthly or annual income, whichever they find easiest. They will then give you the letter that corresponds to the appropriate amount. This system is designed to reassure the respondent about the confidentiality of the information they are giving" (European Social Survey, 2002c: 21).

12.2 The ECHP Measurement Instrument for the Cross-National Comparison of Household Income

The European Community Household Panel collects all types of household income that can occur in the country in question; all household members aged 15 or over are interviewed. For as long as they belong to the panel household, all respondents are asked in detail about their income. Hence, in the course of his involvement in the panel, respondents become experts on their personal monetary situation. The field instrument, which is designed as a person questionnaire, lists all possible sources of money income. In this way, each member of the household is able to recall and state all individually applicable income types during the interview. The 34 types of income listed by the ECHP take up over 16 pages in the person questionnaire. (European Commission, 1996).

In addition to the individual questionnaire for each member of the household aged 15 and older, a household questionnaire is administered to that reference person in the household who is assumed to be able to provide reliable information about income that cannot be assigned to individual members but rather accrues to the household as a whole. The household questionnaire covers 19 types of income, for example, 'social assistance payment, non-cash assistance from the welfare office, income from renting property, inheritance of property or capital, a gift or lottery winnings' (European Commission/Eurostat, 2000: 25-27). Because this survey of the income situation of the household and its members is so comprehensive and detailed, the ECHP data can be used as a reference for the measurement of total net household income in the ESS.

12.3 Influence of Household Size

Household size depends on the underlying definition of 'household' because this definition determines which persons are to be regarded as household members. Hence, the composition of the household members also determines whose income should be added up to yield the total net income of the household as a whole. Cross-national comparative survey research reveals that each country uses its customary definition of 'household', and that this definition varies from country to country.

Because the household concepts on which the ESS and the ECHP are based remain hidden from the respondents, they base their responses on their own personal understanding of what constitutes a household. In the interests of the comparability of both surveys within a country, it can only be hoped that the customary household concept

in that country is reflected in the responses. Household size, measured in terms of the number of persons who live in the household, can be compared across both surveys.

In Germany and Italy larger households achieve high levels of income; smaller households are to be found more often in the lower household income categories. Here, distributions of income by household size differ only slightly between the ESS and the ECHP.

In Luxembourg, however, a discrepancy between the ESS and the ECHP figures is apparent. In the 8th wave of the Luxembourg ECHP, large households are very seldom to be found in the lower income categories (up to the fifth category: 18.000 €), whereas the ESS reports a significant percentage of large households in these income categories.

Table 1: Income categories by household size (row % for the respective countries)

Income Category	Household Size											
	Germany				Italy				Luxembourg			
	1	2	3.4	5+	1	2	3.4	5+	1	2	3.4	5+
ESS												
1-3	60.9	24.1	8.0	7.0	23.2	37.5	30.4	8.9	27.3	22.7	36.4	13.6
4	55.7	26.4	15.1	2.8	17.9	32.5	36.6	13.0	66.7	16.7	8.3	8.3
5	39.8	36.1	21.2	2.9	9.8	27.6	53.7	8.9	36.4	16.4	32.7	14.6
6	13.0	61.9	31.1	3.9	9.5	24.8	60.0	5.7	35.0	29.9	28.2	6.9
7	8.6	37.6	43.2	10.6	5.7	19.5	64.3	10.3	18.2	24.6	44.9	12.3
8	6.9	36.1	51.6	5.4	6.7	15.6	51.1	26.6	13.0	28.3	46.4	12.3
9	7.2	38.6	46.4	7.8	1.4	10.1	71.0	17.4	8.3	18.5	59.4	13.7
10-12	7.8	35.8	43.0	13.4	6.9	3.4	69.0	20.7	2.1	21.9	55.1	20.9
ECHP8												
1-3	71.7	24.2	4.0	0.0	54.3	17.1	24.8	3.9	75.0	0.0	25.0	0.0
4	72.7	19.8	7.1	0.4	37.4	28.7	28.4	5.5	89.3	3.6	7.1	0.0
5	55.5	31.3	11.6	1.5	17.5	30.0	44.1	8.3	70.3	20.0	9.0	0.6
6	22.9	48.0	25.1	4.0	5.2	29.2	56.1	9.4	53.7	30.7	13.7	1.8
7	8.8	39.1	44.0	8.0	2.4	17.0	69.1	11.5	35.9	36.9	23.6	3.7
8	4.4	36.4	51.5	7.8	1.6	16.9	68.3	13.2	25.4	37.5	29.5	7.6
9	2.7	31.8	54.1	11.4	2.0	9.9	65.7	22.3	9.8	34.3	45.4	10.5
10-12	6.3	24.4	52.0	17.2	6.2	17.3	63.0	13.6	3.9	27.0	53.0	16.1

Income categories: 1: up to 1.800 €, 2: 1.800 – 3.600, 3: 3.600 – 6.000, 4: 6.000 – 12.000, 5: 12.000 – 18.000, 6: 18.000 – 24.000, 7: 24.000 – 30.000, 8: 30.000 – 36.000, 9: 36.000 – 60.000, 10: 60.000 – 90.000, 11: 90.000 – 120.000, 12: 120.000 € and more

Source: ESS, 2002 Version Feb. 2004, ECHP UDB Version April 2004, own calculations

Overall, the ECHP reveals a correlation between income and household size: In Germany and Luxembourg, for example, almost no large households [(5+)] are to be found in the lower income categories (1–5). According to the ESS data, by contrast, some 12.7% of large households in Germany and 36.5% of large households in Luxembourg are in the lower income groups. This can be regarded as an indication that the way in which the ESS measures income is not reliable.

12.4 Respondent's Level of Knowledge of the Financial Situation of the Household

The randomly selected interview partner in the ESS may have a close or a distant familial relationship with the main income recipient in the household. If the respondent is the main income recipient or the partner (married or otherwise) of the main income recipient, a close relationship can be assumed. If the respondent is a child, a parent, or another relation of the main income recipient, then the relationship is deemed to be 'distant' in terms of the person's insight into the financial situation of the household as a whole. In the case of a close relationship, it should be assumed that the respondent has exact information about the household's financial situation. Therefore, it is to be expected that responses to the income question in the ESS will be more reliable when they are furnished by a respondent who has a closer relationship to the main income recipient rather than by a household member who is more distant from the economic centre of the household.

Table 2: ESS respondents' age and position in household (column percentage)

	Relationship to Main Income Recipient							
	Germany		United Kingdom		Italy		Luxembourg	
Age	close*	distant*	close	distant	close	distant	close	distant
15-24	2.6	34.3	2.1	18.5	1.5	29.3	4.2	48.5
25-34	12.2	12.8	17.5	14.7	11.0	30.5	16.2	14.7
35-49	36.8	17.7	32.8	17.4	35.8	15.0	35.8	10.6
50-64	0.2	12.7	28.8	15.8	32.5	9.1	26.7	11.3
65-69	8.5	5.1	6.6	6.8	6.5	3.4	8.3	4.1
70 +	9.7	17.7	12.1	26.9	12.6	12.6	8.8	10.8

* close = the main income recipient and his partner

* distant = all other household members

Source: ESS, 2002 Version Feb. 2004, ECHP UDB Version April 2004, own calculations

In Germany and Luxembourg, those respondents who are more distant from the economic centre of the household tend to be between the ages of 15 and 20. In Italy, a large percentage of more distant respondents are also to be found in the 25 to 35 years age

group. In the UK, the largest group of distant respondents is in the oldest age group (see Table 2).

Table 3: ESS respondents' income category and position in the household (cumulative column %)

Income Category	Relationship to Main Income Recipient							
	Germany		United Kingdom		Italy		Luxembourg	
	close*	distant*	close	distant	close	distant	close	distant
1-3	1.6	8.8	3.2	10.4	7.4	12.0	1.7	3.4
4	6.3	28.0	13.5	36.1	24.9	35.4	2.2	6.2
5	19.0	53.2	24.9	50.6	44.3	54.7	5.7	16.1
6	39.8	65.8	36.9	60.7	62.7	66.7	14.8	34.2
7	59.4	76.6	47.1	68.2	77.8	77.1	34.2	53.1
8	73.2	83.9	57.1	76.6	84.7	84.4	48.6	66.8
9	91.2	95.1	81.0	89.9	95.5	95.3	77.4	87.6
10-12	100.0	100.0	100.0	100.0	1000	100.0	100.0	100.0

* close = the main income recipient and his partner

* distant= all other household members

Income categories: 1: up to 1.800 €, 2: 1.800 – 3.600, 3: 3.600 – 6.000, 4: 6.000 – 12.000, 5: 12.000 – 18.000, 6: 18.000 – 24.000, 7: 24.000 – 30.000, 8: 30.000 – 36.000, 9: 36.000 – 60.000, 10: 60.000 – 90.000, 11: 90.000 – 120.000, 12: 120.000 € and more

Source: ESS, 2002 Version Feb. 2004, ECHP UDB Version April 2004, own calculations

The overall impression conveyed by Table 3 is that, in all four countries, the estimates of total net household income given by respondents who are distant from the economic centre of the household are one or two categories lower than the estimates given by the main income recipients or their partners. Presumably, respondents who have a more distant relationship to the main income recipient in their household systematically underestimate the total net household income because their knowledge of the economic situation of the household is so limited.

12.5 The Main Source of Income in the Household

A further cause of uncertainty in the measurement of income in surveys is the nature of the main component of the household income. Income from employment, such as the wages or salary of the respondent and the other members of the household are quite easy to measure because they appear regularly and repeatedly in the household budget. This is also the case when regular wage replacement benefits such as old-age pensions or unemployment benefit constitute the main source of income in the household (see Table 4). Social benefits, income from investment, savings, insurance or property and income

from other sources are supposed to be added to regular and scheduled income. However, in the interview situation, they are frequently forgotten.

Table 4: Main source of income in the household (in %) in the ESS and the ECHP8

Main Sources	Germany	United Kingdom	Italy	Luxembourg
ESS				
Wages or salaries	58.1	57.5	57.2	63.7
Income from self-employment or farming	6.6	4.3	16.8	6.8
Pensions	26.4	26.3	23.5	26.0
Unemployment or redundancy benefit	4.5	1.7	0.9	0.9
Any other social benefits or grants	2.0	8.1	0.6	1.3
Income from investments, savings, etc.	0.6	1.0	0.2	0.1
Income from other sources	1.8	1.1	0.8	1.1
ECHP8				
Wages or salaries	61.6	58.6	49.5	65.0
Income from self-employment or farming	5.4	5.7	15.2	3.0
Pensions	23.9	23.2	30.2	24.8
Unemployment or redundancy benefit	3.0	0.3	1.0	0.2
Any other social benefits or grants	4.2	9.8	2.0	5.9
Private income	1.9	2.4	2.0	1.2

Source: ESS, 2002 Version Feb. 2004, ECHP UDB Version April 2004, own calculations

What is striking in the case of Germany (Table 4) is the comparatively high percentage of households whose main source of income is unemployment- or redundancy benefit – in the ESS 4.5% and in the ECHP8 3%. In the United Kingdom, 'other social benefits or grants' constitute the main source of income in 8.1% of cases in the ESS and 9.8% of cases in the ECHP.

As the number of income sources that a household has increases, so too does the complexity of the response to the income question. Not only the fact that all types of income and the individual amounts for each household member must be added up, but also the fact that all this information must be recalled in the interview situation, constitutes a considerable burden for the respondent.

Table 5: Income categories and main source of income (from economic activity, in %) by country in the ESS and the ECHP8

	Germany			Italy			Luxembourg		
Income Category	wage/ salary	self-employ-ment	pension	wage/ salary	self-employ-ment	pension	wage/ salary	self-employ-ment	pension
ESS									
1-3	1.5	3.6	2.8	6.9	4.0	13.0	1.3	2.2	3.3
4	3.9	3.6	13.6	16.4	12.0	29.9	0.2	0.0	0.7
5	11.7	8.6	24.5	18.6	14.0	24.7	4.2	6.5	7.8
6	17.8	12.2	25.2	18.6	17.0	12.3	10.2	8.7	18.3
7	20.8	10.1	14.8	15.0	15.0	11.0	16.4	15.2	25.0
8	15.5	12.2	6.7	8.2	7.0	5.2	12.0	21.7	18.3
9	19.6	29.5	9.4	12.3	20.0	1.9	30.6	26.1	19.0
10-12	9.3	20.1	3.0	4.1	11.0	1.9	25.0	19.6	8.2
ECHP8									
1-3	0.7	0.0	1.7	2.1	5.8	11.3	0.2	0.0	0.0
4	3.6	3.0	17.5	11.2	16.9	36.3	0.8	0.0	1.7
5	9.9	5.3	27.0	24.8	17.8	24.2	4.1	4.2	9.8
6	14.4	8.6	23.1	19.1	19.3	13.4	7.4	5.6	21.8
7	21.7	16.5	14.3	17.9	15.0	6.9	9.2	4.2	20.6
8	18.1	15.8	7.4	10.6	8.3	3.8	10.5	5.6	13.0
9	27.7	33.0	7.6	12.7	13.4	3.8	38.1	23.6	27.0
10-12	3.8	16.8	1.5	1.6	3.5	0.2	29.7	56.9	6.2

Income categories: 1: up to 1.800 €, 2: 1.800 – 3.600, 3: 3.600 – 6.000, 4: 6.000 – 12.000, 5: 12.000 – 18.000, 6: 18.000 – 24.000, 7: 24.000 – 30.000, 8: 30.000 – 36.000, 9: 36.000 – 60.000, 10: 60.000 – 90.000, 11: 90.000 – 120.000, 12: 120.000 € and more

Source: ESS, 2002 Version Feb. 2004, ECHP UDB Version April 2004, own calculations

Both surveys reveal the same patterns with regard to the main sources of income (see Table 5): In Germany, the UK, Italy and Luxembourg, the most frequently cited source of household income is paid employment. This is followed, in second place, by pensions. Together these sources account for 80% to 90% of the income of the respondent households. In the case of Italy it is striking that, in the ESS, 23.5% of respondents give pensions as the main source of household income, whereas the ECHP reports 30.2%.

The response behaviour of respondents who live in households whose main source of income is wages/salaries or pensions is similar in both the ESS and the ECHP. What is striking in the case of respondents from households whose main source of income is 'other social benefits or grants,' is the low number of respondents, in absolute terms, who

chose this category; the results of the ECHP would lead one to expect higher absolute values in this category.

12.6 Composition of Household Income

In the ECHP, each household member aged 15 and older was requested to answer the questions on personal income. As Table 6 shows, most respondents had to recall and state five or six income types and amounts.

Table 6: Income categories by number of income sources (column %) in the ECHP8

Income Category	Number of Income Sources											
	Germany			United Kingdom			Italy			Luxembourg		
	4-6	7-8	9-13	4-6	7-8	9-13	4-6	7-8	9-13	4-6	7-8	9-13
1-4	7.7	5.9	3.7	10.9	5.8	2.9	16.4	7.8	6.6	1.0	0.3	0.0
5	12.2	12.0	8.7	13.3	9.0	5.8	19.9	15.8	13.2	5.5	2.2	1.2
6	18.9	12.9	12.1	13.9	10.4	8.9	18.0	17.1	16.9	10.1	5.7	3.9
7	19.3	17.3	21.3	11.8	12.1	11.2	16.6	18.6	16.3	10.9	9.2	6.0
8	14.0	16.5	18.9	11.4	12.2	12.4	9.9	15.7	10.7	9.8	10.8	5.7
9	21.5	29.4	29.8	26.0	35.1	38.7	13.6	20.4	28.5	35.4	38.8	39.3
10	3.8	4.5	4.3	8.4	12.0	15.8	1.3	2.5	4.7	20.5	23.6	32.4
11	0.5	0.5	0.4	1.5	1.9	2.6	0.2	0.4	1.6	5.3	6.3	8.7
12	0.2	0.3	0.2	0.8	0.8	1.4	0.0	0.0	0.6	1.4	3.1	2.7

Income categories: 1: up to 1.800 €, 2: 1.800 – 3.600, 3: 3.600 – 6.000, 4: 6.000 – 12.000, 5: 12.000 – 18.000, 6: 18.000 – 24.000, 7: 24.000 – 30.000, 8: 30.000 – 36.000, 9: 36.000 – 60.000, 10: 60.000 – 90.000, 11: 90.000 – 120.000, 12: 120.000 € and more

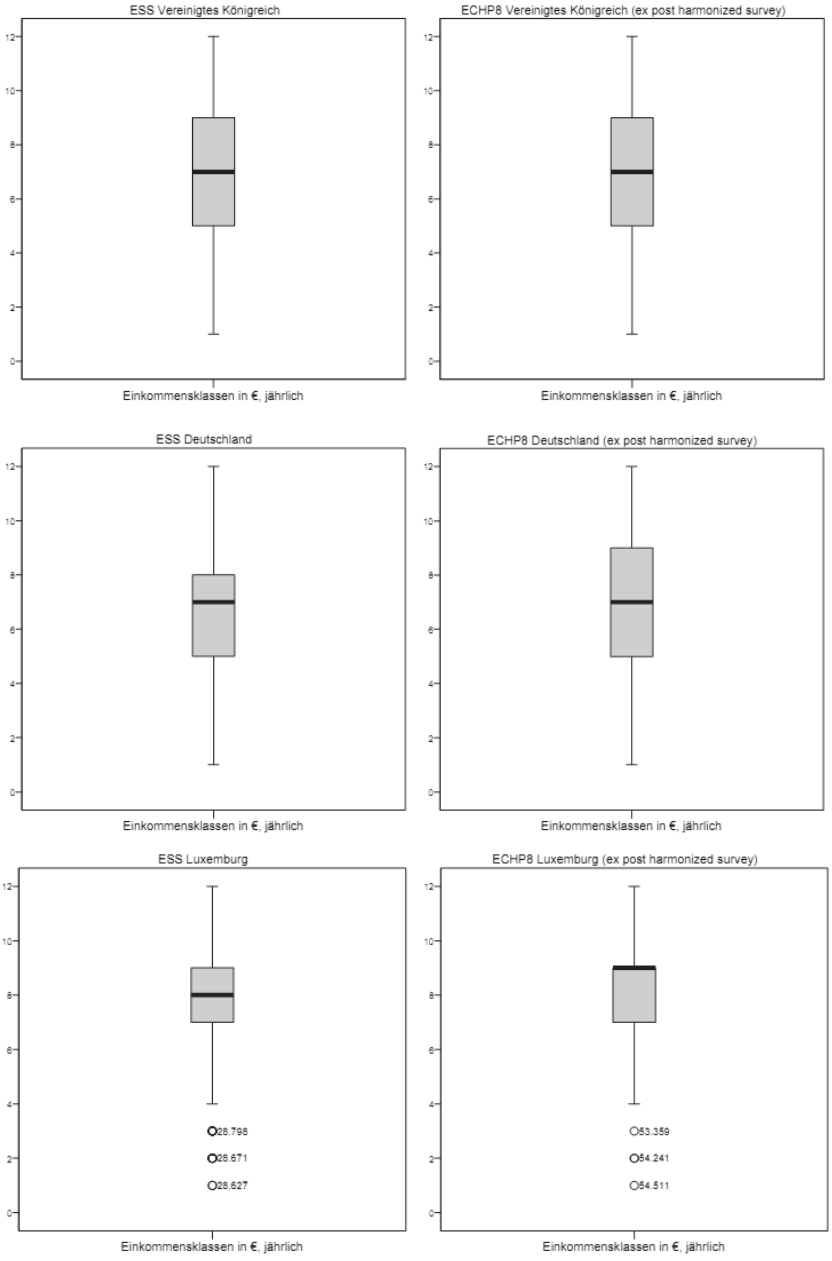
Source: ESS, 2002 Version Feb. 2004, ECHP UDB Version April 2004,, own calculations

Some 63% of the Italians in the ECHP reported income from between three and six sources. In Germany, a total of 72% of respondents named between six and eleven sources. In the United Kingdom, between five and nine sources were the norm, while most respondents in Luxembourg had to add up between four and six amounts of income.

12.7 Comparison of the Results for Total Net Household Income from the ESS and the ECHP

Figure 2 compares the distribution of responses across income categories in the ESS with the distributions of total net household income in the ECHP. The ECHP income values have been recoded into the income categories used in the ESS. The images on the left of Figure 2 are graphic representations of the distribution of responses across income

categories in the ESS for the respective countries. The images on the right of Figure 2 show the grouped income distribution in the ECHP.



Source: Warner, 2009: 84, 88, 92.

Figure 2: Distribution of Total Net Household Income according to ESS Categories: Comparison of ESS and ECHP for the United Kingdom, Germany, and Luxembourg

In the case of the United Kingdom, both data sources yield the same income distribution. A slight deviation is apparent in the case of Germany: 50% of the ESS respondents opt for the fifth to the eighth income category after they have added up all the household income, while 50% of the ECHP population availed of the fifth to the ninth income category. Marked differences between the two statistics are apparent in the case of Luxembourg: In the ESS, the average income response was in the eighth income category, whereas the average for households interviewed within the framework of the ECHP was in the ninth income category.

12.8 ESS Income Categories Ordered According to the ECHP 5-Percent Percentiles

The national income distributions from the 8th wave of the ECHP divided into groups each of which contains 5% of the population constitute the second step in the comparison of the total net household income data of the two surveys (see Table 7). They are sorted into the income categories used as response options by the ESS. This step highlights the need to adapt the response categories of the income question to the concrete national income situation.

Table 7: Distribution of the ECHP8 5-percent percentiles across the 12 ESS income categories (selected countries)

	No. of the ECHP8 5% Percentile					
ESS Income Categories.	Germany	United Kingdom	Italy	Luxembourg	Portugal	Finland
Up to 1,800	---	---	---	---	---	---
1,800-3,600	---	---	---	---	1-2	---
3,600-6,000	---	---	1	---	3-5	---
6,000-12,000	1-2	1-2	2-5	---	6-11	1-3
12,000-18,000	3-5	3-5	6-10	1	12-15	4-7
18,000-24,000	6-8	6-7	11-13	2-3	16-17	8-10
24,000-30,000	9-12	8-10	14-16	4-6	18	11-12
30,000-36,000	13-14	11-12	17	7-8	19	13-15
36,000-60,000	15-19	13-17	18-19	9-15	---	16-19
60,000-90,000	---	18-19	---	16-18	---	---
90,000-120,000	---	---	---	19	---	---
120,000 and more	---	---	---	---	---	---

Source: ESS, 2002 Version Feb. 2004, ECHP UDB Version April 2004, own calculations

In Germany, the 15th to the 19th 5-percent percentile of the ECHP are to be found in the 9th ESS income category (36,000–60,000 euros); the 10th ECHP 5-percent percentile, whose upper threshold corresponds to the median of the income distribution is in the 7th ESS income category (24,000–30,000 euros).

According to the ECHP, only the wealthiest 5% of Portuguese households have a total net household income of over 36,000 euros. In Luxembourg, the 9th ESS income category (36,000–60,000 euros) covers the ECHP's income distribution from the 9th to the 15th 5-percent percentile. The bottom 5% of the population in the ECHP income distribution for Luxembourg has a net household income of between 12,000 and 18,000 euros (the 5th ESS category), whereas the median (the 10th 5-percent percentile) is to be found in the 4th income category (6,000–12,000 euros).

Overall, the household income of the respondents in Germany and Luxembourg is distributed across six or seven income categories. However, depending on the average national income, the distribution across income categories varies significantly across the countries.

12.9 Measurement of Income in the Fourth Round of the ESS in 2008

Round 1 of the ESS took place in 2002; Round 4 of this pan-European survey was fielded in 2008. In the first three rounds, the coordinators of the survey prescribed a common and uniform system of income categories for all participating countries for use in the income showcard. In 2006, Jürgen H.P. Hoffmeyer-Zlotnik and Uwe Warner (2006: 318 ff.) published an initial critical assessment of the ESS income measure on the basis of the results of Round 1. To a certain extent, their suggestions for improvement were taken into account in the conception of the fourth round. The response categories have been based on deciles of the actual household income distribution in the country in question. The quality of this new income measure depends on the quality of the statistics from which the national household income range is derived.

The modifications to the income questions in Round 4 of the ESS wave affected the framing of the questions, response categories, and showcards.

> F31: Please consider the income of all household members and any income which may be received by the household as a whole. What is the main source of income in your household? Please use this card (ESS, 2008a: F31).

The modified showcard now features separate response options for 'income from self-employment (excluding farming)' and 'income from farming'. The income types are:

- Wages or salaries
- Income from self-employment (excluding farming)
- Income from farming
- Pensions
- Unemployment/redundancy benefit
- Any other social benefits or grants

- Income from investment, savings, insurance or property
- Income from other sources' (ESS, 2008a: Card 72).

The text of the 'net total household income question' gives the respondent an indication of what is meant by 'net' (ESS, 2008a: F32):

> "F32: Using this card, please tell me which letter describes your household's total income, after tax and compulsory deductions, from all sources? If you don't know the exact figure, please give an estimate. Use the part of the card that you know best: weekly, monthly or annual income."

From the fourth round of the ESS onwards, each participating country frames its own showcard. As mentioned above, the response categories are based on the deciles of the actual household income range in the country in question. In a note on the framing of the decile income showcard, the ESS coordinators gave the following instructions to those responsible for running the survey in each country:

> "An income showcard should be devised with approximate weekly, monthly and annual amounts. You should use ten income range categories, each corresponding broadly to DECILES OF THE ACTUAL HOUSEHOLD INCOME RANGE in your country. These figures should be derived from the best available source for your country. The data source used should match the requirement of the question i.e. deciles of household income for all households (not for example average households or just households with children). Using the median income as the reference point, 10 deciles should be calculated with the median itself at the top of the fifth decile (Category F). The figures should not appear to be too exact. Minor rounding can be employed to achieve this if necessary" (European Social Survey, 2008a: CARD 73; see also: European Social Survey, 2008b: 17).

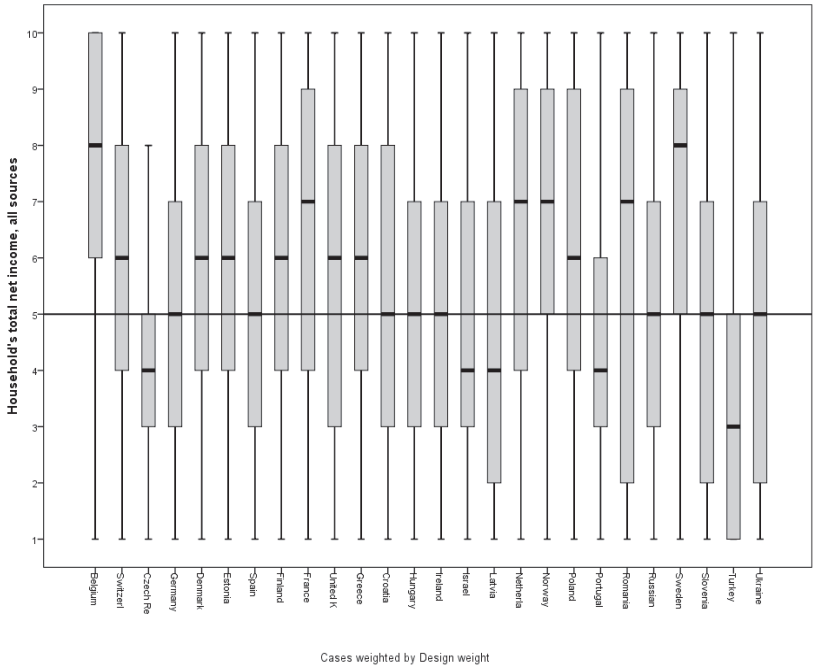
Figure 4 shows the country-specific distributions of the responses across the 10 income categories. Of the 26 countries that participated in round 4 of the ESS, the mean of the income distribution in 14 countries lay in the fifth or sixth income category. In six countries the mean was in a category higher than the sixth category, while in five countries the mean of the distribution was in a category lower than the fifth category.

Because the survey population (here: households) is divided into ten categories corresponding to deciles of the actual household income range, it is to be expected that in a representative survey with a probabilistic sample each response category will be selected by approximately 10% of the survey population.

CARD 73				
YOUR HOUSEHOLD INCOME				
	Approximate WEEKLY	Approximate MONTHLY	Approximate ANNUAL	
J	Weekly equivalent	Monthly equivalent	Income corresponding to that held by 10% of households with lowest income (0-10%)	J
R	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (11-20%)	R
C	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (21-30%)	C
M	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (31-40%)	M
F	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (41-50%)	F
S	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (51-60%)	S
K	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (61-70%)	K
P	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (71-80%)	P
D	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (81-90%)	D
H	Weekly equivalent	Monthly equivalent	Income corresponding to that held by next 10% of households (91-100%)	H

Source: European Social Survey, 2008a: CARD 73

Figure 3: Household income showcard model, ESS 2008



Source: ESS, 2008, own calculations

Figure 4: Country-specific distributions of responses across the ten income categories in ESS

12.10 EU-SILC as Reference Statistics for Total Net Household Income in ESS Round 4

The European Survey of Income and Living Conditions (EU-SILC) replaced the ECHP as the reference statistics for the social and economic situation in the European Community. This user-database covers on household level 20 monetary items, and on individual level 16 income elements. EU-SILC was launched in 2004. The annual releases of the cross sectional data refers to income reference year previous to the year of the fieldwork operation. The 2004 interviews report the income situation of 2003, etc.. The target population of EU-SILC is all private households and their current members residing in the participating countries at the time of the interview. Persons living in collective households and in institutions are generally excluded. (European Commission, Eurostat, 2009a and 2009b) The aim of the instrument is to collect comparable cross-sectional and longitudinal data on 'income, poverty, social exclusion and living conditions' (European Commission, Eurostat, 2010). As Eurostat explains. As a benchmark for the ESS round 4 carried out in 2008, we use the 2009 data collection of EU-SILC reporting the incomes of the reference year 2008 (EU-SILC USER DATABASE Version from 01-08-11).

12.11 Results for Total Net Household Income from ESS4 and from EU-SILC

Figure 6 compares the survey results of ESS4 with the income distribution given by the EU-SILC. We apply the national ten answer categories of the ESS4 to the "total disposable household income" data of the EU-SILC of this nation. The left column graphs show the respondent's distribution of ESS4 over the ten income deciles. As can be seen from the countries presented by way of example in Figure 6, this expectation was fulfilled in some cases, but not in others. In Denmark, Estonia, Finland, France, the United Kingdom, Croatia, Poland and Slovenia, for example, each income category was chosen by almost 10% of respondents (ESS, 2008c). However, medium deviations from the expected decile distribution were observed in the case of Switzerland, Germany, Spain, Greece, Hungary, the Netherlands, Norway, the Ukraine and Ireland, where the middle income categories were more strongly represented than expected. Large deviations from the decile distribution were observed in Belgium, the Czech Republic, Latvia, Portugal, Romania, Russia, Sweden and Turkey. (ESS, 2008c). Small deviations from the decile distribution are acceptable and within the realm of probability because of rounding, which the ESS permits. A deviation is deemed to be large if at least one response category deviates by at least 10 percentage points from the expected 10 percent mark. A deviation is considered to be medium if at least one response category deviates by at least 5 percentage points from the ten percent mark. Deviations of 2.5 percentage points from the expected 10% share are deemed to be small. The right column graphs show the distribution across the deciles of the benchmark from EU-SILC.

In *Belgium*, the two highest deciles show large deviations from the expected 10% mark in both datasets. The highest response category starts at 35.000 Euro. But 33.731 Euro is the upper threshold of the 60% decile of EU-SILC in Belgium. Therefore considerably

more than the expected 10% of the respondents in Belgium choose the ninth and tenth answer categories during the ESS interview. The lower income categories are not used to the expected extent by the respondents of the ESS4. The EU-SILC reports the upper threshold of the lowest decile at 12.012 Euro, this corresponds to the fourth answer category from the Belgium showcard used in ESS4 (see Table 9). The ESS4-2008 Survey Documentation (ESS, 2008c) reports that the income range categories for Belgium were calculated on the basis of total taxable net income data from the tax register (see Table 8). The responses in this country gave rise to major deviations from the expected 10% mark in all ten response categories. In Belgium, taxable income is made up of wages and salaries, income form self-employment, pensions, unemployment benefit, sickness and disability benefit, income from the rental of property and land, income from investments, income from property and other sources. However, because the ESS measures total net household income, and many components of household income are not subject to tax (for example public and private transfers), it is obvious that the lower response categories in Belgium are either not used at all or are hardly used.

Table 8: Income distribution in Belgium according to tax register

Deciles	Total taxable net income from register	Average tax paid in %	(Total taxable net income from register)-(Average tax paid)	Rounded net income as appeared on showcard 72
1	4,909	0	4,909.000	Less then 5,000 €
2	9,677	1.5	9,531,845	5,000 € to 10,000 €
3	12,001	2.3	11,724,977	10,000 € to 12,000 €
4	14,860	7.9	13,686,060	12,000 € to 14,000 €
5	18.139	12.5	15,871,625	14,000 € to 16,000 €
6	21.816	17.9	17,910,936	16,000 € to 18,000 €
7	26.457	21.2	20,848,116	18,000 € to 21,000 €
8	34.146	24,3	25,848,522	21,000 € to 26,000 €
9	47.834	27.5	34,679,650	26,000 € to 35,000 €
10	>47.834	>27.5	>34,679,650	35,000 € or more

Source: European Social Survey 2008c: 3

Based on this information from the tax register, the Belgium national ESS teams designed the showcard used during the interviews of ESS round 4.

	HEBDOMADAIRE	MENSUEL	ANNUEL	
J	Moins de 100 €	Moins de 410 €	Moins de 5000 €	J
R	100 € à moins de 200 €	410 € à moins de 800 €	5000 € à moins de 10000 €	R
C	200 € à moins de 225 €	800 € à moins de 1000 €	10000 € à moins de 12000 €	C
M	225 € à moins de 260 €	1000 € à moins de 1150 €	12000 € à moins de 14000 €	M
F	260 € à moins de 300 €	1150 € à moins de 1350 €	14000 € à moins de 16000 €	F
S	300 € à moins de 350 €	1350 € à moins de 1500 €	16000 € à moins de 18000 €	S
K	350 € à moins de 400 €	1500 € à moins de 1750 €	18000 € à moins de 21000 €	K
P	400 € à moins de 500 €	1750 € à moins de 2150 €	21000 € à moins de 26000 €	P
D	500 € à moins de 650 €	2150 € à moins de 2900 €	26000 € à moins de 35000 €	D
H	650 € ou plus	2900 € ou plus	35000 € ou plus	H

Source: ESS 2008 Enquête Sociale Européenne, Belgique francophone, Quatrième vague – 2008, Cartes Réponses. Carte 73

Figure 5: Belgian showcard 73 with the income categories

In *Portugal* the families' Expenditure Survey is used to develop the answer categories for ESS4. Applying the income brackets used in ESS4 to the EU-SILC data, we find small deviations from the 10% population (right graph). This confirms the adequate design of the response card in Portugal. But the answer behaviour of the surveyed population in ESS4 differs largely from the 10% criteria.

The respondents of ESS4 fulfil the expectation in the *United Kingdom*, only the highest decile is overrepresented and less than 10% of the population respondents choose the middle income categories.. Whereas in EU-SILC the lower income categories of ESS4 have more than 10% answers.

The *Polish* showcard for the income question in ESS4 is built on the income distribution of the Polish Household Budget Survey. In ESS4 the two lower income categories are underrepresented and do not reach the 10% mark; the two highest income deciles are more often used as expected. Compared to the EU-SILC distribution across the ESS4 categories, we see that the upper end of the income distribution is not measured adequately by the income groups offered to the respondents of ESS4.

Table 9: EU-SILC 2008 "Total Disposable Household Income" Decile Thresholds in Euro

	lowest 10%	20%	30%	40%	50%	60%	70%	80%	highest 90%
Belgium	12.012	15.191	18.741	22.837	27.683	33.731	40.012	47.386	59.951
Portugal	5.395	7.602	9.730	12.078	14.412	16.818	20.504	25.117	34.560
United Kingdom	9.561	13.217	16.684	20.314	24.839	29.821	35.911	44.057	58.544
Poland	3.417	4.672	6.041	7.511	9.054	10.872	13.024	15.897	20.571

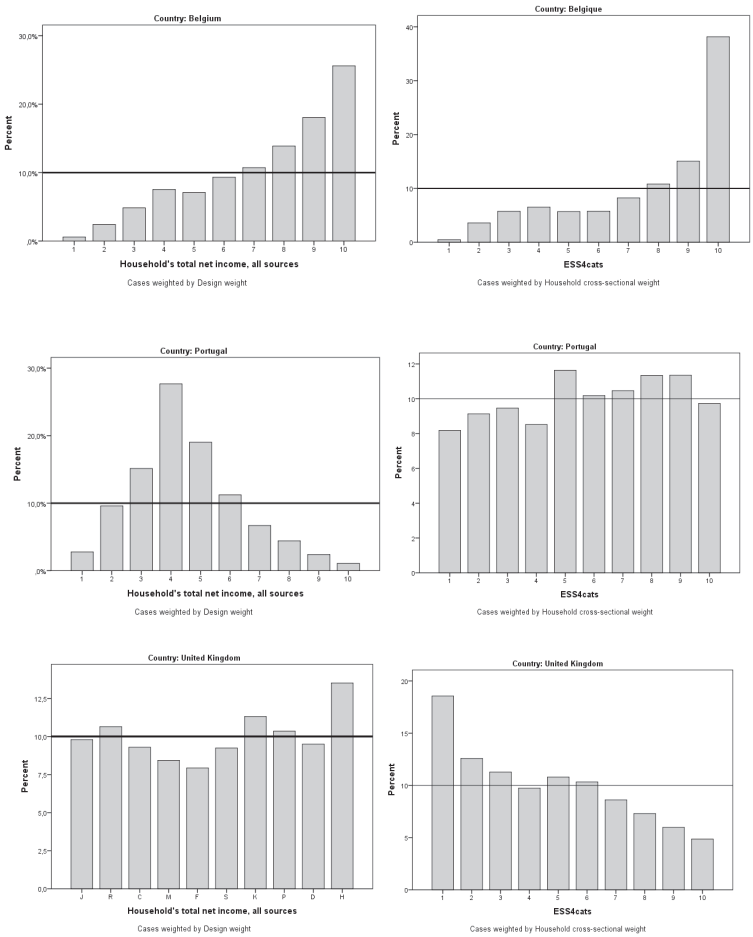
Source: EU-SILC USER DATABASE Version from 01-08-11, own calculations

The participating countries derive the household income categories from different data sources. As the ESS stresses, the figures for the household income range 'should be derived from the best available source' for the given country (European Social Survey, 2008a: CARD 73) (see Table 9). Four countries use the EU-SILC as the basis for calculating the household income deciles; fourteen countries calculate the household income range on the basis of other survey data; and eight countries derive the income deciles from population registers or census data (European Social Survey, 2008c).

The quality of the responses to the survey question about total net household income depends on the quality of the reference statistics from which the household income range is derived (see Table 10). These data must cover all types of income and optimally represent the national distribution of household income across the survey universe. That means that in the case of total net household income, all possible payments accruing to a household and all its members in a given country must be reported in these statistics and that all households in the survey universe must be represented in the reference statistics. Then the income groups for the response categories can be calculated using the 10% percentiles[1] from the income distribution in the reference data. This is the only way to ensure that – with the exception of minor deviations – the respondent population uses the whole range of response categories as expected.

1 Income deciles: The ten income categories that comprise 10 percent of the survey population respectively are a variant of the percentiles that divide the population into segments of 1 percent. Quintiles, which divide the range into five equal parts, are also commonly used, as are quartiles, which divide the distribution into four equal parts. Twenty-five percent of a distribution lie below the first quartile, etc. The difference between the lower threshold of the highest quartile and the upper threshold of the lowest quartile comprises 50% of all observed units in the distribution. This quartile distance can be viewed as a measure of the dispersion of the distribution (cf. Kühnel & Krebs, 2007: 85 und 105).

ESS4 income categories and ESS4 data *ESS4 income categories and EU-SILC data*



Source ESS4, EU-SILC USER DATABASE Version from 01-08-11, own calculations

Figure 6: Distribution of Total Net Household Income according to ESS4 Categories: Comparison of ESS4 and EU-SILC

Table10: Data source of income distributions in the ESS

Country	EU-SILC	Other Surveys	Register	Census	Deviations
Belgium			Tax register		large
Switzerland		Swiss Household Panel			medium
Cyprus		Unknown survey			
Czech Republic	yes				large
Germany		Income and consumption survey			medium
Denmark			Income register		small
Estonia	yes				small
Spain		Household Budget Survey			medium
Finland		Distribution of income matched survey and register			small
France				yes	small
United Kingdom		Family Resources Survey			small
Greece	yes				medium
Croatia		Household Budget Survey			small
Hungary		ESS3			medium
Israel		CBS income survey			medium
Latvia	yes				large
Netherlands			CBS register		medium
Norway			register		medium
Poland		Household Budget Survey			small
Portugal		Families' expenditure survey			large
Romania		Family budget survey			large
Russian Federation		CESSI Monitoring of Social-Political situation in Russia			large
Sweden			Income and tax register		large
Slovenia				yes	small
Turkey		Survey of Income Distribution and Life Conditions			large
Ukraine		Monitoring Survey of the Institute of Sociology, National Academy of Science			medium
Ireland		Not specified			medium

Source: European Social Survey, 2008c: Documentation Report Income. Table compiled by the authors

12.12 Conclusion and requirements for social survey questions

The definition of the object to be measured – total net household income – and the structural analysis of the national distributions of income yield the formulations of the first two survey questions: First the respondent must be induced to recall all the sources of income accruing to each of the household members who contribute to the household income. Then he must add the income from all the possible sources and subtract taxes and social insurance contributions.

Because the average income levels and income distributions differ in the various types of European countries, the response categories must be adapted to the national income situation. As three types of total net household income distributions in European countries can be identified, three systems of categories are required. They can be presented to the respondent on a country-specific showcard that allows him to choose between weekly, monthly and annual income. In countries such as Italy and Portugal, the lower end of the income scale must be subdivided further, starting with an annual income of 2,500 euros and moving up in 2,500-euro steps until it reaches 15,000 euros. Thereafter, the width of the categories increases. Countries such as Luxembourg will not offer any response categories at the lower end of the scale because they rarely occur in the national income distributions. In these countries, the scale begins at 10,000 euros. In countries such as Germany or the United Kingdom, the scale begins at an annual income of 5,000 euros and continues in 5,000-euro steps. Only by using such differentiated scales is it possible to adequately represent the distribution of total net household income (see Warner, 2009: 144ff.).

The third question measures the number of income recipients resident in the surveyed household in question. This information enables the researcher to check the plausibility of the responses.

The fourth question focuses on the main source of income. Although it uses all the income types from the first question, the respondent must choose just one, namely the category that appears to him to be main source of the income in the household.

The fifth question measures the respondent's personal relationship to the main earner or income recipient in the household. This gives the researcher the means to assess the quality of the income information provided by the respondent. If the respondent is the main income recipient, or the partner of the main income recipient, the income figures provided are likely to be more valid than if the respondent has a more distant relationship to the main income recipient, for example if they are a parent or child of that person.

The nationally standardised and internationally harmonised measurement instrument comprises five questions. The question stimuli are identical in all survey countries. The response categories are adapted to the national income situation. In this way, they cover national commonalities and differences.

The application of the instrument entails little effort – on the part of the interviewer and the respondent. Although the task of calculating the total net household income for the household is a complex one, it would not be less complex if it was set in a less precise way, as is the case in many surveys. Because the task is so, the respondent must be helped to recall the various elements of the calculation to be performed according to

exact instructions. On the other hand, however, the researcher should make sure that he is able to assess the quality of the response. This is the function of the three final questions.

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The groundwork for this volume was laid at a workshop "Demographic Standards for Surveys and Polls in Germany and Poland - National and European Dimension" in Berlin in August 2011, which was organised by GESIS in cooperation with the Social Science Research Centre Berlin (WZB). The idea was to take a look at the way socio-demographic variables are standardised in countries in which standardisation is taken seriously. Of particular interest in this regard were those countries in which data collection has been subjected to major discontinuities or disruptions in the last two decades. This was the case in the former Warsaw Pact countries – as a result of system change – and in the new countries created after the dissolution of the former Yugoslavia and Czechoslovakia. All these countries experienced disruptions and discontinuities not only in official statistics but also in the surveys conducted by market and social researchers. We chose Poland, the Czech Republic, and Slovenia because it was evident that they place importance on the standardisation of socio-demographic variables. In all three countries a new departure in official statistics took place in the early 1990s. Further changes were necessary in 2004 when these countries simultaneously acceded to the EU, because the new EU member states were obliged to submit data to Eurostat from May of that year onwards. As a result, the comparability of survey data assumed greater importance. The first three chapters of the present volume are devoted respectively to descriptions of the Demographische Standards for Germany as of 2010; to a prospect for demographic standards for surveys and polls in Slovenia; and to the standardisation of socio-demographic variables in surveys in the Czech Republic, followed by a chapter on the European standardisation process initiated in 2005 when the Directors of Social Statistics created a task force for the harmonisation of core social variables. The "Core Social Variables" instrument proposed by the task force and adopted by Eurostat is due to be implemented in EU social surveys by the end of 2013. The chapters that follow deal with the measurement of individual variables.

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